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# PROCESSOR.

Products, News & Information Data Centers Can Trust.

**Since 1979** 

## Racks & Furniture For Your Data Center

Hergo Provides Long Lasting Technical Furniture Customers Can Build On

**LONGEVITY.** It's one good word to aptly describe both the technical computer furniture that Hergo Ergonomic Support Systems manufactures and the relationship it has forged with customers through its products. Hergo has made repeat business a hallmark of the company by easily adapting to changing needs and producing high-quality, modular open racks and other equipment for data centers, network rooms, and other environments.

"We have customers that come back to us five, six, 10 years later looking to add on to the same configuration," says Hergo Vice President Kristen Speranza-Diamond. "And we can say, 'Yes, we can add on to it with no problem' because the general design of the main product does not change." Whether an enterprise is adding personnel or moving to another building, it can keep using its Hergo structure without having to start from square one again, she says.

#### **Equipment That Lasts**

Beyond data center and network rooms, Hergo also outfits hospitals, command centers, government agencies, and military operations with computer furniture designed with organization and containment features in mind. Products include workstations (motorized included), computer desks, flatpanel arms, carts/PACS, and work and test benches. Hergo's primary focus, however, is its open rack components and configurations and enclosures and cabinets.

All Hergo products are modular. For example, says Eli Hertz, Hergo CEO and president, Hergo's open racking products function similar to a LEGO set. "Basically, we have close to 400 parts, and you can configure them any way you want to suit your needs," he says. "You preserve the value, and you preserve the money you just spent to build an infrastructure using our solution." Customers can add, take away, or change a racking configuration even 10 years later, Hertz says. "Companies that are buying from us now, maybe 12 or 13 years later whenever they have to add something, they can do it with no problem. They don't lose on their original investment," he says.

Feature-wise, Hergo's open racking equipment addresses space-saving and positioning issues by applying a vertical approach to securely contain PCs, switches, and other gear. "You don't want to waste space in facilities. That's an expensive proposition," Hertz says. "Our solution basically takes vertically the hardware to save space, to get accessibility to

of the machines if needed. The equipment is very strong and will last for many years," he says.

the back

The vast majority of products Hergo sells are manufactured within the 40,000 square feet of space it operates in New York, enabling Hergo to provide quick product delivery and exemplary quality control. All Hergo racks include a lifetime warranty and feature heavy-duty, powder-coated steel construction that is fully modular and can be wall mounted or used freestanding. "We designed the frames in such a way that you can adjust heights, you can adjust depths, you can adjust equipment running vertically or horizontally," Hertz says. Most importantly, Hergo's product lines are designed to complement one another to function as one solution.

#### **Expert Qualifications**

Hergo's history goes a long way toward providing it with unique insight into understanding the needs of technology-driven businesses. Hergo originated in 1982 as Hertz Computer Corp., one of the earliest manufacturers of IBM PC clones, before transitioning in 1992 to designing and selling technology furniture.

"Our background is the PC business," Hertz says. "We were the largest manufacturer of PC clones in New York City, so we saw how technology was flying—moving fast." To that end, the company set about building modular furniture that could minimize the losses associated with the rapid pace at which technology moves.

Today, Hergo offers free pre-sale consultation and CAD drawings that provide customers a precise view of how the furniture will fit into the environment the customer configures.

\*\*B\*\*

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nology

related to IT in the area

of networking and PCs, we lived it here because we started doing it in the area of Hertz Computer," Hertz says.

That experience, Hertz says, enables Hergo to recognize coming changes and understand such issues as the effect of temperature and heat. "All this knowledge comes from our previous life," Hertz says. Further, Hertz says, "everyone in the company uses the product . . . you sell what you are using, and obviously you want to use the best."

Hergo prides itself in its customer service. At Hergo, one person provides product support from start to finish vs. "different departments that move you from one department to another," Speranza-Diamond says. "There's one account manager that moves you from nuts to bolts. That includes post-shipping if any issues should arise." Every sales rep Hergo hires starts in the factory to learn how equipment is made and shipped. "Without that knowledge, we don't feel a salesperson can be effective for this industry," Speranza-Diamond says. Repeat business, Hertz says, is proof that this level of attention pays off.

#### Contact:

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News

#### SaaS Revenues Continue To Skyrocket

2. How often do you purchase computer

Quarterly

■ No Involvement

■ Annually

hardware/software?

■ Bi-weekly

Monthly

Weekly

Research company Gartner reported that

SaaS (software as a service) revenues totaled \$12.3 billion in 2011, and Gartner expects that figure to rise dramatically in the coming years. According to Gartner, SaaS revenues should reach \$14.5 billion in 2012 and continue to accelerate, reaching \$22.1 billion in 2015. Gartner claims North America, and particularly the U.S., show the most opportunity for SaaS growth; the U.S. market alone hit \$7.8 billion in 2011 and is expected to reach \$9.1 billion in 2012.

#### Symantec Buys App **Management Company**

Mountain View, Calif.,-based Symantec has completed its acquisition of Nukona, a Solana Beach, Calif.,-based software company specializing in mobile app management solutions for businesses. As a growing number of companies implement BYOD (bring your own device) policies for their employees, app management has become a vital concern for those companies' IT departments and software developers. Nukona will become part of Symantec's Endpoint and Mobility Group, led by senior VP CJ Desai. "More and more organizations are mobilizing business applications and data," said Desai in a statement, "and we want to offer them a secure and efficient path to business critical mobilization." Financial terms of the acquisition were not disclosed.

#### Fewer Organizations **To Block Social Media** In Future

About half of all large organizations currently block employee access to social media sites at the workplace, but this figure is expected to drop to 30% by 2014, according to Gartner. The percentage of businesses blocking such sites is decreasing by nearly 10% each year, which can lead to great opportunities but also threats, according to Gartner. Key factors to keep in mind when allowing or barring employee access to social media sites, Gartner claims, include the trust level an employee will place in a public platform used in the workplace, the efficiencies provided by identity intelligence on a massive scale, and identity verification opportunities.

This information provides a quick glimpse of current and historical stock prices and trends for 14 major companies in the technology market.

Company	Symbol	Year Ago	April 12 \$	April 26 \$	% change from previous issue
AMD	AMD	\$9.72	\$7.92	\$7.44	▼ 6.06%
Apple	AAPL	\$268.64	\$622.77	\$607.79	▼ 2.41%
CA Technologies	CA	\$23.42	\$26.69	\$26.68	▼ 0.04%
Cisco Systems	CSCO	\$27.53	\$20.06	\$19.60	▼ 2.29%
Dell	DELL	\$16.65	\$16.26	\$16.53	<b>▲</b> 1.66%
Google	GOOG	\$532	\$651.01	\$615.47	▼ 5.46%
HP	HPQ	\$52.88	\$25.10	\$24.88	▼ 0.88%
IBM	IBM	\$130.46	\$205.32	\$205.62	▲ 0.15%
Intel	INTC	\$23.49	\$28.48	\$28.22	▼ 0.91%
LinkedIn	LNKD	na	\$105.90	\$105.22	▼ 0.64%
Microsoft	MSFT	\$31	\$30.98	\$32.11	▲ 3.65%
Oracle	ORCL	\$25.97	\$28.70	\$29.02	<b>▲</b> 1.11%
Red Hat Software	RHT	\$30.78	\$60.81	\$59.79	▼ 1.68%
Symantec	SYMC	\$17.14	\$18.29	\$16.47	▼ 9.95%

NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.





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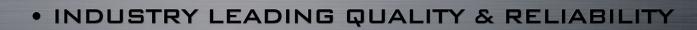
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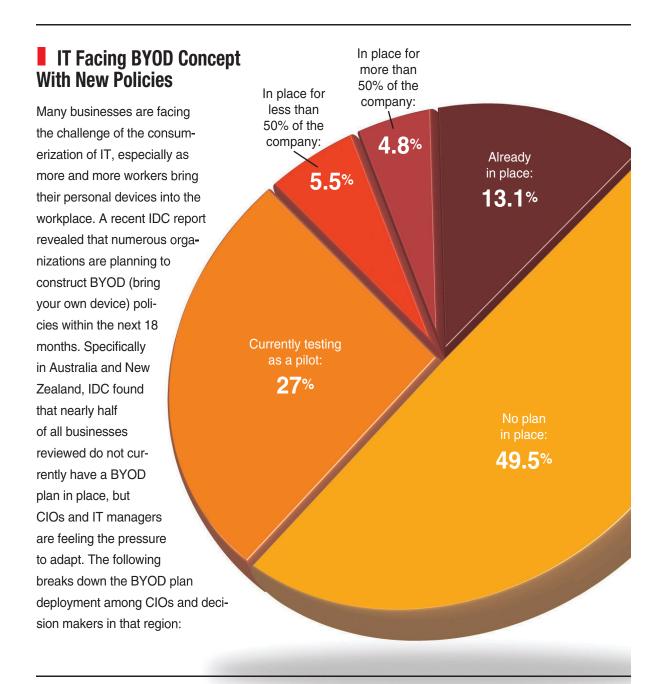
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- AUTOMATIC RESTART FUNCTION
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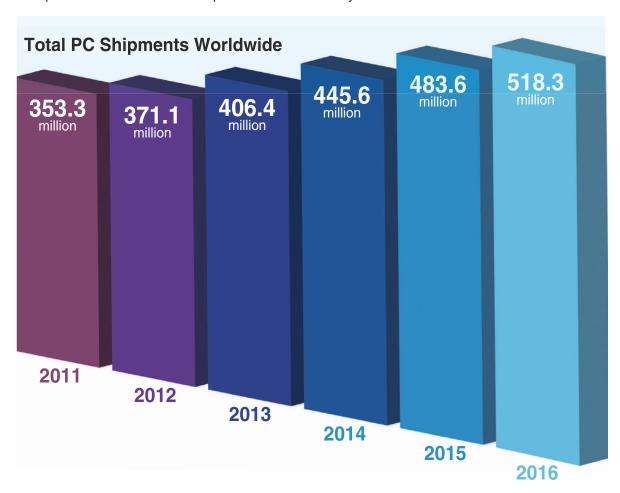
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#### **■ PC Shipments Slow, Growth Expected This Year**

According to IDC's "Worldwide Quarterly PC Tracker," PC shipments for 2011 increased 1.8% from 2010 and are expected to make a comeback in the latter half of this year. The research firm predicts that the release of Windows 8 and the upcoming availability of ultrabooks and ultra-thin notebooks will boost PC sales by 5% for the year. The popularity of tablet devices may slightly be affecting the PC market, IDC says, but user surveys from the company prove that consumers do not yet consider a tablet a replacement for their PCs. This chart details IDC's predictions on worldwide PC shipments over the next five years:



## Consumers Not Trusting Of Mobile Security

According to Edelman's 2012 "Privacy & Security" report, the majority (70%) of global consumers are more concerned about the security of their personal information than they were five years ago. The report revealed that only 32% of consumers worldwide say they feel their

online privacy is adequately protected and 85% say organizations should take privacy and security more seriously. Approximately 80% of consumers around the world use online banking services, and 90% of those



surveyed report that financial information is the greatest online security concern.

#### Dell Buys Thin Client Leader Wyse

Thin clients reigned along with mainframes but faded in popularity when compact PCs began to dominate in the 1990s. Wyse Technology, founded in 1981 and headquartered in San Jose, Calif., has remained a major force in thin client computing despite market shifts, and in recent years has embraced thin client-like technologies such as cloud computing and desktop virtualization. Round Rock, Texas,-based Dell has agreed to acquire Wyse and hopes to subsequently enhance its own desktop virtualization portfolio. Wyse stands to benefit from Dell's hardware business and large scale of operations. Financial terms were not disclosed, which should close sometime in Q2 of this year.

#### Ericsson Acquires BelAir Networks

BelAir Networks, the Ontario-based company that made the carrier-grade Wi-Fi networking solutions used by the likes of AT&T and Comcast, is now part of Ericsson. Based in Stockholm, Sweden, Ericsson will acquire 100% of BelAir's assets and will continue to employ BelAir's 120 employees. "Together we can deliver the industry's first integrated Wi-Fi cellular offering to Ericsson's global customer base in 180 countries, to enhance consumers' mobile broadband experience," said Johan Wibergh, an executive VP with Ericsson, in a statement. Detailed terms of the agreement have not been released.

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## Google Expands Its Wallet Assets

Mountain View, Calif.,-based Google has acquired TxVia, a New York company that built a payment platform that supports prepaid and rechargeable money cards. Financial details were not disclosed, but Google's press release indicates that the deal would help scale its Google Wallet mobile payment service. Google Wallet is thus far tied mainly to NFC (Near Field Communication) technology for such things as smartphone transactions.

#### ISYS Joins Lexmark's Perceptive Software

Lexington, Ky.,-based Lexmark, best-known for its printers, imaging solutions, and document management systems, announced that it would acquire Denver-based ISYS Search Software, a leader in enterprise search. ISYS will become part of Perceptive Software, an ECM (enterprise content management) and BPM (business process management) company headquartered in Shawnee, Kan., that Lexmark purchased in 2010. Details of the transaction weren't disclosed, but ISYS CEO Scott Coles said in a press release, "Joining Lexmark will enable ISYS to further enhance its already strong IP base, and to more quickly achieve the next major stage of its commercial development."

## Panasonic Avionics Builds On In-Flight Communications

Panasonic Avionics, the in-flight communication and entertainment Panasonic subsidiary headquartered in Lake Forest, Calif., is now the



majority shareholder of UK-based AeroMobile Communications. AeroMobile provides in-flight GSM cellular network access for customers wishing to make phone calls, exchange text and MMS messages, use email, and access mobile data via the Internet. Panasonic Avionics and AeroMobile share some history as the two companies collaborated to produce the Panasonic eXPhone service, which is currently in use and provides in-flight voice and data services. AeroMobile will continue operations as an independent company.

## Microsoft & AOL Strike A Billion-Dollar Deal

In a recent announcement from its New York headquarters, AOL acknowledged that it had sold more than 800 patents (many of them reportedly related to Netscape) to Redmond, Wash.,-based Microsoft for \$1.056 billion in cash. The sale includes



300 others in "advertising, search, content generation/management, social networking, mapping, multimedia/streaming, and security, among others," according to AOL's press release. The transaction should be complete by the end of this year.

## Samsung Makes New MicroSD Cards For LTE Devices

Samsung is now manufacturing 16GB microSD cards using the UHS-1 (Ultra High Speed-1) interface, which is especially suitable for the demands of new and upcoming 4G LTE (Long Term Evolution) smartphones and tablets. The interface "allows consumers to enjoy high-quality images and video playback directly from the memory cards, which fully supports the advanced performance features of diverse digital gadgets," said Wanhoon Hong, Samsung's executive VP for memory sales and marketing. Samsung indicated that higher-density cards are forthcoming, but did not provide a time-frame for those.

#### Lenovo Opens Its Own App Shop

With an eye toward enterprises that use Lenovo or other tablets running Android 3.1 or later, Lenovo announced its new Lenovo Enterprise App Shop. Lenovo, headquartered in Beijing and Morrisville, N.C., intends to provide larger businesses with greater administrative control via the new Web-based store and the associated App Shop Manager software. Combined, these products will help companies control what apps are available to employees. Administrators can also use the management software to purchase and distribute apps, enable and disable apps on mobile devices, enjoy volume pricing discounts, and publish their own companies' apps.

## FCC To Help Crack Down On Stolen Phones

Mobile phones, whether by themselves or along with other items, are now common targets for thieves. According to the Federal Communications Commission, 40% of New York City robberies involve mobile phones. In order to help protect victims of phone theft, the FCC, with the support of Senator Chuck Schumer and others, will create a database of mobile phones so that when a given phone is reported stolen, wireless carriers can remotely shut down that phone. According to the FCC, this reporting system will initially be available in the U.S. in October through AT&T, Sprint, T-Mobile, and Verizon Wireless.



#### BrightEdge Set To Expand

BrightEdge, a company focused on providing a platform for site, search, and social management for enterprises, has secured \$12.6 million in series C funding led by Intel Capital. Plans for the funding include enhancing the BrightEdge product suite, adding to company staff, 0000100101001010 and expanding offices 01010010100101010( 10 100 10 10 100 10 10 100 10 in New York and 1101000100111110000010 London. The 0010010100101010111110 010010100100010100100111 BrightEdge 0010011110101000100101010 S3 platform 100101010010101001010010101 111100000101110000 provides 0101001010101111110 businesses 000100100101001000 with information about 100100111110000010 00111101010001001 their products and brand, 10100100100010010 including search engine 00101010010100101 1101000100111110000 metrics, social media 01110000100101001 insights, and comprehen-101111110100001001 sive reporting in a secure 01001000101001001 10000010010011110 environment. The com-00010010101010010 pany has grown rapidly in 00100101010010101 01001010111101000 the past 18 months, experiencing 400% year over

year growth.

#### PHOTO LISTINGS

## The *Processor* Photo Listings section includes brief overviews of data center products.

All products listed have been released recently, so use this section to get up to date with what's new on the market and to find products you need.

#### **ERACKS/QUIET SERVER**

The eRacks/QUIET Server is designed and constructed to be low-noise, using a special combination of low-noise fans, fan-placement and other low-noise components including a low-heat CPU and ultra-quiet CPU fan. The standard configuration includes an Intel Atom CPU, SATA3 hard drive, optical drive, and DDR3 memory, all enclosed in a short-depth 1U chassis. Single, dual, and quad NIC devices are available, and it can be configured with a range of CPU, HDD, memory, and connectivity options and your choice of operating system. Custom configurations are also available. It comes with a standard one-year full/three-year limited warranty.

Base Price: \$795



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#### METHODE - DATA SOLUTIONS GROUP U-TRACK<sup>SM</sup>

#### Don't be tied down when it comes to tracking your racked assets

U-Track<sup>SM</sup> is designed to provide asset-tracking data, precise to the actual rack unit position, to the Methode DCIM manager. Via a robust API, U-Track can feed live data into leading DCIM software suites on the market today. For the first time the expensive, time consuming, and operationally risky act of taking data center inventory is reduced to the push of a button.

- · No tethering required
- · Rapid Installation & Set-up
- Installed without interfering with or removing in-rack equipment

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#### SENSATRONICS SENTURION RACK MOUNTABLE ENVIRONMENTAL MONITOR

Sensatronics recently introduced the Senturion Rack Mountable Environmental Monitor, which was designed with the IT manager in mind. The standard features of the Senturion includes:

Manufacturers:

- 3-Year Warranty
- Free Technical Support of the Life of the Product
- Out of Box and Into the Rack in Minutes with Quick Install
- Integrated temperature/humidity/light level
- External probes available for temperature, humidity, door open, dry contact, leak detection, and power presence.



(800) 633-1033 | www.sensatronics.com

#### CHENBRO PC782

The PC782 from Chenbro is an ideal solution for IPC applications. The PC782 can be applied in rugged environments such as kiosk, PoS, and digital signage. The PC782's front bezel with customized Mylar and customized rear I/O, including VGA, Ethernet, HDMI, and serial ports, provide you more flexibility for different IPC markets. An 8mm M/B stand can



fit standard or specific industrial M/B, and the rigid metal bezel protects the system. It comes with up to two internal 2.5-inch bays or one internal 2.5-inch bay + slim ODD bay and optional smart card adapter.

Target applications: Internet appliance, Web appliance, security appliance, communication server, and digital signage.

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#### LINDY USB PORT BLOCKER

System administrators can physically prevent users from connecting Pen Drives, MP3 Players and other USB Mass Storage Devices to their computers to copy data, introduce viruses, etc. The USB Port Blocker is a combined 'key' and 'lock' assembly which plugs into the USB port. Simply plug the 'keylock' into the port and release the latch - the lock remains in place! Plug the key back into the lock to remove.

- Physically blocks access to a USB port
- Consists of 4 locks and 1 key
- 5 different color code versions available: Pink, Green, Blue, Orange, White



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#### ProQSys FLOWTRAQ

FlowTraq is an easy-to-use network flow collector that gives you deep insight into your network flows and helps you address potential security vulnerabilities or performance-related issues.

- FlowTraq is fully customizable, yet you can set up and start using in less than five minutes.
- You can create network filters based on subnets, interfaces, NSEL conditions, TCP flags and other criteria.
- You can build custom dashboards for more improved access to all your collected data.
- FlowTraq is compatible with NetFlow, sFlow, CFlow, IPFIX, and JFlow exporters.



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  -Increased rear vertical capacity (over 9")
- Power Handling
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assist you in every way.



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eRacks Open Source Systems introduces a new line of high-performance, energy-efficient rackmount servers powered by the cutting-edge Intel Xeon E5-2600 series processors. The Eseries line of



Starts at \$2,125

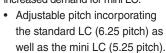
processors will drastically boost system performance while also increasing energy efficiency by as much as 70%.

- 1U chassis with options of redundant power
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#### SL-500X™ SERVERLIFT

The slim 24 inch frame sits on four oversized swiveling castor wheels, allowing it to easily maneuver around data center aisles. The unit is designed to load equipment from the side rather than the front, for a more intuitive operation and seamless installation. Aligning equipment is simple with an ultra-rigid platform featuring a unique Easy-Glide Shelf for added support into the rack. Safety is essential and the TouchSTOP™ Sensor stops the unit

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The new Stand-Up Tile Lifter by Sealco lets you pull floor tiles while standing fully erect! The ergonomically designed shaft shifts weight from your back to your shoulders. Suction is engaged or released with the flick of a lever just beneath the hand grip. The ERW steel shaft stands 3.5' high (angled).

With 5" diameter neoprene cups, the Stand-Up Tile Lifter is rated to 75 pounds of lift, and yet weighs only 5 pounds! It's available in red or black. The optional wall-mount keeps it always visible and available.



Best for: Any raised-floor data center environment

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#### SIX QUICK TIPS

## Data Center Fire Protection & Suppression

#### Select The Best System For Your Data Center

In an instant, a data center fire can devastate a business. Beyond downtime, there's equipment damage, escalating insurance rates, and other related costs to deal withhence the need for fire protection and suppression systems. As Melanie Davy, Info-Tech Research Group analyst aptly says, however, there's more riding on the outcome of these systems than costs. "Life safety always should be first priority," she says. To that end, "installing and selecting a fire prevention and suppression system for the data center should not be a DIY project," Davy says. "It requires the expertise of a fire engineer and/or third party to ensure the protection of property; continuity of business; and most importantly, life safety." Read on for more concerning fire protection and suppression.

#### ✓ Know The Basics

Factors to contemplate when installing fire protection for a data center, says Chris Jelenewicz, P.E., engineering program manager, Society of Fire Protection Engineers, include the building's structure, occupants, first responders, and equipment. Jelenewicz says both active fire systems (sprinkler, gaseous, alarm and communications, smoke management, etc.) and passive fire systems (fire doors, walls, etc.) are necessary to adequately protect people, property, and structures. What's important, he says, is both system types "should be designed so that they work together as one complete fire protection system."

Davy says because fires can happen at any time, it's important enterprises are prepared to protect lives ("failure to do so can end in tragedy and legal action"); safeguard invaluable data and expensive equipment; and comply with local, state, federal, and NFPA (National Fire Protection Association) codes and standards. Ultimately, she says, the 'authority having jurisdiction' will dictate the majority of fire protection requirements. Also critical is preparation that ensures the continuity of operations, Davy says, as "when it comes to critical business activities, downtime can cost the company thousands of dollars and interrupt employee productivity."

#### ✔ Plan Your Approach

Any fire protection program an enterprise enlists should cover the entire facility. In addition to documenting the types of fire protection systems in use, Jelenewicz says, the program should document how the systems operate, interact with one another, and are maintained; who should be notified in emergencies; how staff should respond to emergencies; and how the continuity of operations will be ensured. Also important is enlisting assistance from a fire protection engineer who understands current fire protection technologies, as well as facility managers, IT, fire code officials, first responders, and the building's owner.

Davy says at a minimum, a data center must have a sprinkler system, fire detection and alarm components, portable fire extinguishers, and emergency power-off abilities in place (according to NFPA 75). Other

forms of protection, such as clean-agent suppression systems, are classified as add-ons. Davy advises that IT review the codes and standards spelled out in NFPA 72, 75, and 76. Overall, Info-Tech advises installing a combination of smoke and heat detection systems for early detection; pre-action sprinkler systems for data centers because "they lower the risk of accidental water release"; and HFC-236fa-designated fire extinguishers, which are approved for data center use and are gas-based, meaning they won't leave a residue on equipment when released. Design engineers ought to assess potential hazards and issues associated with the data center before any action is taken, Davy says; and data center managers should look for third-party professional expertise to construct the final plan for a fire protection system.

#### ✓ Select The Right System

When selecting a protection system, it's vital that the best system for the given application is installed. This requires contemplating many factors, Jelenewicz says, including the type and number of occupants in the building, the ease of system maintenance, and if an adequate water supply is available. Additionally, consult a fire protection engineer to help select the right system and prepare the design, installation, and maintenance requirements, he says.

One mistake to avoid is not understanding how the new protection system will interact with other fire protection systems in the building, including sprinkler and alarm systems, Jelenewicz says. Interaction between the fire suppression system and building's fire alarm system, for example, should include establishing connections so that system activation will trigger an alarm condition in the building and the system will notify appropriate building personnel.

Davy says IT should also factor in the volume of the room being protected. Clean-agent

fire suppression systems are more expensive in larger data centers, as they require more supply of the gaseous agent, she says; adding that managers should choose the best option based upon data center contents, keeping in mind the safety of the equipment. Davy says some forms of fire protection can harm and damage data center equipment when released. Elsewhere, she advises to note portions of the protection system that are mandatory vs. best practice. Although smoke detectors are mandatory, it is a best practice to install both heat and smoke detectors, she says.

#### ✓ Justify The Expense

Info-Tech Research Group's Melanie Davy says an Info-Tech survey found organizations spend a median of \$30 per square foot on fire protection renovations in data centers, which includes power layout and space outside the data center. Survey results also showed data center renovations involving fire protection and suppression cost a median of \$11,000 to \$50,000. Although Info-Tech recommends pre-action sprinkler systems for data centers, conversion from wet to pre-action sprinklers is expensive, Davy says, and IT should consider the costs. IT should also "make sure the cost is justified" when replacing standard sprinkler nozzles with mist nozzles. Clean-agent fire suppression systems, meanwhile, aren't mandatory for fire protection in the data center but are successful for quick fire suppression and lessen potential damage to equip-

ment, she says. Still, they're also expensive to purchase and install (especially if they do not retrofit into existing pipes) and may be toxic, she says.

#### ✓ Water Suppression Could Be A Good Bet

Chris Jelenewicz, P.E., of the Society of Fire Protection Engineers, says companies often enlist clean-agent fire systems based on the common misconception that water will damage IT equipment. Although this is true for data center equipment powered up, equipment powered down by EPO [Emergency

Power Off] is not as likely to be damaged by water, he says. Info-Tech Research Group's Melanie Davy says non-mandatory fire protection can become costly and should be looked at in terms of risk and cost of downtime. An Info-Tech survey, she says, indicated organizations spent an average of \$8.12 per square foot on mandatory fire protection systems and an average of \$35.77 per square foot on additional fire protection systems, such as clean-agent suppression systems. Recently, she says, there's been a decline in "the uptake of clean-agent suppression systems due to their cost, toxicity, and risk. Even large organizations . . . that can afford additional fire protection have opted out of this option in their new data centers."

#### **BONUS TIPS:**

#### ✓ Ensure Proper Maintenance

Integral to installing a fire protection system is developing a maintenance, inspection, and testing program. Melanie Davy of Info-Tech Research Group says maintenance should include regular participation from the vendor or qualified third party. Chris Jelenewicz, P.E., of the Society of Fire Protection Engineers, says the maintenance plan should include documentation citing the type of system in place, proper maintenance procedures, procedure intervals, who is to perform procedures, and what documentation should be used to indicate the procedure was performed properly.

#### ✓ Consider Mist When Water Is Limited

Water mist systems require less water than standard sprinkler systems to adequately control a fire, Jelenewicz says. Thus, water mist systems use smaller diameter piping and don't weigh as much as standard sprinkler systems. These qualities have led water mist systems to be used to protect a wide variety of threats that include passenger ships, machinery spaces, museums, and locations with limited water supplies, he says.

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#### **Focus On Customer Service**

RockyNet understands that in any industry, everything the company does should start with the customer. "Customer service is how RockyNet made its name," says Jose Rosales, marketing director at RockyNet. "Many data centers have customers conform to their parameters, but at RockyNet, we tailor our services to our customers by listening to their needs and desires and customizing solutions for

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RockyNet's cloud solutions make it much easier to take advantage of virtualization. The company's Virtualization-as-a-Service offering lets you virtualize your servers and data with the option of having control over the hypervisor or letting RockyNet take care of everything. You can also decide whether you only need four virtual machines or as many as 64. The price of these services depends on the package you choose, so you can get the level of virtualization you need without inflating your overall IT budget.

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#### **More On The Horizon**

RockyNet plans to evolve alongside the industry to ensure that the current and future needs of its customers are always the priority. "RockyNet is moving into the Software-as-a-Service industry while continuing to provide our quality Infrastructure-as-a-Service product set," says Mako. "The data center gives us all the infrastructure to support our startup program partners, experiment with new technology, and develop our own efforts."



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#### HOW TO

## Plan For & Perform A Server Upgrade

#### Know The Costs & Infrastructure Requirements Before You Dive In

A SUCCESSFUL SERVER UPGRADE requires plenty of forethought and up-front legwork. Beyond addressing software, component, and application compatibility issues, IT must account for possible virtualization, capacity, facility, testing, throughput, and cost factors associated with an upgrade. Plus, there's the matter of backing up data and carefully scheduling for downtime to avoid prolonged disruption to business. The following offers advice for the smooth planning and execution of a server upgrade.

#### **First Things First**

Mapping out short- and long-terms goals, along with corresponding strategies, is vital to a successful server upgrade. Mark Bowker, Enterprise Strategy Group senior analyst, says that because server upgrades often align with new IT projects, applications, or application upgrades, it's important that "IT focus on both the life cycle of the application and how it aligns with the expected life of the server and account for planned and unplanned scale." IT should also know its options. Too often, Bowker says, IT purchases a server with more capacity than needed, which provides the comfort of extra headroom but also incurs additional expense. "IT should understand what the latest processor chipset is on the market and what the stated roadmap of the chip manufacturers are," he says. "This will help avoid buying into servers that are at the end of a product lifecycle."

According to Max Haskvitz, general manager of eRacks (www .eracks.com), knowing the enterprise's hardware and networking platform is the most important aspect of a server upgrade, but having redundancy in place is also "beyond important," he says. "Network and data migration are huge issues every enterprise has to deal with; however, if done with an eye for detail, it shouldn't cause too many headaches." Prior to an upgrade, he says, back up data and ensure that planned changes will work with the network and applications. "In general, I always would request that the vendor perform the upgrade," he says. "That way it stays under warranty. If anything goes wrong, you have someone liable that's outside the company, and you will get resolution in most cases quickly."

#### **Prep Work**

Among the upgrade preparations that Charles Jansen, technical support manager at Aberdeen LLC (www.aberdeeninc.com), suggests is meeting with decision makers to decide if an upgrade is really worthwhile, as "it may be more time- and cost-effective to purchase a new server." Additionally, schedule downtime to complete the upgrade, determine how long the server will be down—"It can take 24 to 72 hours just to build a new RAID group using 1TB/2TB/3TB drives," Jansen says—and make sure personnel will be available during that timeframe. Also ensure that vendor support will be available, and gather and review device-related documentation to limit surprises, he says.

Jansen also suggests checking the server's warranty status and whether it can be extended; double-checking and documenting specifications for the current BIOS, firmware, drivers, and internal components; and gathering server and component serial numbers in case support is required. If upgrading the CPU or memory, he says, "be certain that the system will support the additional components. Don't mix CPU steppings, and don't mix memory module ranks and speeds."

If upgrading storage, he says, check that hard drives are compatible with the existing RAID controller; document all drive models, LBA, and firmware; avoid mixing within the same RAID group; and don't use desktop-grade hard drives in RAID groups. If upgrading a RAID controller, ensure that

the new controller is compatible with existing PCI-X or PCI-E slots. "Most controllers designed to run on PCI-E Gen 2 slots will not even be recognized on a PCI-E Gen 1 slot," he says. If adding external storage, verify that there's room for required storage host bus adapters, that a driver for the OS is available, and that all media and storage devices work properly, and test installation media on a test system to ensure reliability.

#### **Test Your Work**

Overall, Haskvitz advises to be prepared for anything to go wrong and take steps (clone drives, network maps, have a spare server ready, etc.) to avoid downtime. "Though some downtime will likely occur," he says, "a well-prepared team and a network with redundancy has much more risk-avoidance than upgrading a mission-critical server with no backups [or] fall backs," he says. Post-upgrade, test for throughput, bandwidth, stability, heat, and memory issues, he says. Good vendors will do this for you, he says, but IT should generally request that a 24- to 48-hour testing suite be done on new machines and on memory, CPU, or hard drive upgrades.

For servers that have been in production several years, Jansen suggests using manufacturer utilities to test existing memory

#### **Key Points**

- IT should meet with all pertinent decision makers to determine whether an upgrade or purchasing a new server makes more long-term sense.
- IT must carefully plan for downtime and ensure all necessary personnel and component and support documentation are available before upgrade.
- Post-upgrade, IT should test for performance and reliability issues.

and hard drives before upgrading. "RAID consistency checks and CHKDSK should be performed to verify volume integrity," he says, adding that these processes can be time-consuming on large data sets.

Bowker advises referring to hardware compatibility lists to ensure that the workload planned for the server is approved for that hardware. "Depending on the application, an extensive test of the application with a real-world workload should be [performed] on the system," he says. In some large-scale environments, this may include significant vendor participation. For less-critical projects, IT can run its standard new-install checklist, he says.

#### **Action Plan**

- Determine the time needed to perform upgrade.
- Ensure personnel and vendor support will be available.
- Gather necessary warranty, installation, and support documentation.
- Verify that the new components, storage, or OS are compatible with system.
- Verify that any external storage devices and backup media required work properly.
- Back up data on the server and test for recovery.
- Perform the upgrade.
- Run desired reliability and performance tests.

#### **Get Started**

Before you get started with a server upgrade or replacement, be sure to plan your budget carefully. Costs associated with a server upgrade can be staggering, says Charles Jansen, technical support manager at Aberdeen LLC (www.aberdeeninc.com). Possible expenditures include those related to equipment, software licensing, labor, telco and power company services, facility improvements, vendor support, and downtime. Additional costs related to supporting a new platform can include those for power, network cabling, cooling, rack space, and management personnel, he says. Enterprise Storage Group analyst Mark Bowker adds that most new servers now include server virtualization, and the additional expense of server virtualization software can add up quickly if not planned for.

#### **Top Tips**

- Cover the basics. Factor in such basics as space requirements, power availability, and cooling and UPS capacity, says Mark Bowker, Enterprise Strategy Group senior analyst. "IT should establish a timeline from when they procure the server to when the application running on it goes live into production," he says. This may require collaboration with network, security, storage, and application IT teams.
- ✓ Ensure compatibility. Although seemingly obvious, make sure that upgrade components are compatible with the server. "Many times, I have seen memory just not work simply because its chipset doesn't work with the board or the board doesn't support any more memory," says Max Haskvitz, general manager of eRacks (www.eracks.com).
- Are you qualified? Only qualified personnel should be involved in an upgrade, says Charles Jansen, technical support manager at Aberdeen LLC (www.aberdeeninc.com). This includes those "familiar with the server platform, operating system, and applications." Bowker says an upgrade may involve numerous teams, particularly those involving mission-critical applications. "Each team may need to conduct a series of tests, and the time it takes to conduct these tests should be included in the project timeline," he says. A data center operations manager will typically monitor the process, coordinate testing, and bring the server into production, he says.

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Standard features
include the high-



est performance computing power using the latest Intel® Xeon® E5-2600 family of dual socket processors. Direct attached HDD backplane and expander backplanes are available for application-specific solution optimization.

- Up to 768GB of ECC Reg. DDR3-1600MHz SDRAM in 24 sockets
- Up to 7 PCI-E 3.0 slots provide exceptional I/O performance
- Redundant Platinum Level high efficiency (94%+) power supplies maximize operational efficiency
   Flevible market entry points from 211 / 12 have to 41.
- Flexible market entry points from 2U / 12 bays to 4U / 36 bays
- Hardware RAID and ports for JBOD expansion
- Quad Gigabit LAN and remote management using IPMI 2.0 with dedicated LAN

**Best For:** Data Center CPU Intensive Storage, Virtual Storage Environments, Single Instance Storage & Data Deduplication, Data Replication & Business Continuity, and Virtual Tape Library.

Contact: (408) 503-8000 | www.supermicro.com

## SRC Computers, LLC Scalable Systems & Servers

Scalable multi-rack systems and servers from SRC Computers feature the new reconfigurable Series J MAP<sup>®</sup> processors and can reduce the footprint and power consumption by orders of magnitude compared to microprocessor-based systems, while meeting the needs



of the most demanding applications. Using the Carte™ Programming Environment, these systems are also very programmer-friendly and fully software-compatible with SRC Computers' embedded and desktop products.

- Housed in 19-inch 35U racks
- Includes system console, power management system, and network switch
- 28U available for customer-selected nodes
- Cluster configuration offers scalability and flexibility
- Hi-Bar<sup>®</sup> Switch Network with Multi-Ported Common Memory configuration allows for additional capability of managed data movement

**Best For:** Compute-intensive or data movement applications in such areas as textual search, signal processing, image processing, medical imaging, and financial analytics.

**Contact:** (719) 262-0213 | sales@srccomputers.com www.srccomputers.com

*Processor*'s Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

#### eRacks NAS50



The NAS50 Network Attached Storage file server from eRacks is a fully customizable server with the capacity to store 200 terabytes of data. The NAS50 supports SAS or SATA hard drives and works with either Intel or AMD processors, including Intel's Sandy Bridge Xeon series in either single, dual, or quad configurations. AMD options also include dual and quad configurations with AMD's Opteron series. The server specializes in Windows and open-source operating systems.

- Ultra-fast 6Gbps transfers with SATA III
- Chassis dimensions: 15.6 x 16.9 x 27.2 inches (HxWxD)
- Includes a one-year full warranty and three-year limited warranty
- Choice of Intel or AMD processor and configuration
- Can be fitted with 512GB of DDR3 memory, 10GbE Network cards, and 6GBps RAID controller cards
- Hot-swap 3.5-inch SAS/SATA drive bays

**Best For:** Cloud admins who want more storage for their users and data center managers looking for enterprise-level, high-performance open-source rackmount servers that include the latest products and are easily upgradeable.

Contact: (714) 532-5322 | eracks.com

#### eRacks STUDIO7



The STUDIO7 from eRacks is an audio creation and production computer system accommodating up to 24GB of DDR3 memory. This customizable rackmount chassis accommodates four 5.25-inch drive bays used as either removable hot-swap storage or DVD-ROM drives. The STUDIO7 is an ultra-quiet rackmount, with noise levels below 32Db. The system is preloaded with a set of open-source audio and video software applications with no licenses or upgrade fees required.

- Linux-based and includes Intel Core i7 CPU and Intel X79 chipset
- Packaged with Maudio and Nvidia audio and video devices
- · Solid-state drives standard
- Integrated USB3, SATA3 controllers
- Standard chassis dimensions: 5.25 x 19 x 20.8 inches (HxWxD); shorter depth chassis available
- Includes a one-year full warranty and three-year limited warranty
- Integrated Gigabit Ethernet
- Two PCI slots and PCI-E for added network connectivity, graphics, audio, etc., and front USB connector

**Best For:** Those looking for a professional, studio-level audio and video server with open-source software applications.

Contact: (714) 532-5322 | eracks.com

## Hardcore Computer Liquid Blade Server



The Liquid Blade Server from Hardcore Computer is the only rack-mounted high-performance server with patented total submersion technology, a revolutionary cooling system that is 1,350 times more efficient by volume than air cooling. Submersion technology keeps servers running cooler and more reliably with the highest level of sustained performance. Liquid Blade eliminates the requirement for inefficient and expensive air-conditioning systems, reducing cooling costs by as much as 80%.

- Exceptionally fast, smart, and reliable dual Intel Xeon 5500 and 5600 CPUs
- Available Intel Xeon 5698 CPUs with guaranteed overclocking beyond 4.7GHz
- Ultimate simulation/visualization server featuring Nvidia
   Tesla and Quadro GPU cards
- 40Gbps InfiniBand, 10Gbps Ethernet, and other connectivity options available
- Up to six SSDs supported by motherboard SATA II

**Best For:** High-performance data center and grid computing applications where reliability and availability are mission-critical.

Price: Starts at \$5,684

Contact: (866) 530-0101 | www.hardcorecomputer.com

#### Portwell CAR-1000



Unlike commercial motherboard-based systems, the CAR-1000 1U rackmount communication appliance from Portwell features a reset button that will change the system back to the manufacturer's default setting, if required. CAR-1000 is also perfect for customers who need six Gigabit Ethernet ports and applications that require the high performance and low power consumption of Intel's dual-core Atom D510 processor. CAR-1000 is offered with a choice of three Intel Atom processors—single-core N450 or D410 and dual-core D510—for flexible customized configuration.

- Intel Atom D510, D410, or N450 processor and ICH8M I/O controller
- Supports fanless solutions when built with Intel Atom processor N450
- Up to 4GB DIMM with D510/D410; up to 2GB DIMM with N450
- Six Gigabit Ethernet ports with two bypass segments
- Mini PCI slot for Wi-Fi and Crypto card option

**Best For:** Network security solutions to SOHO and remote/satellite offices.

Contact: (877) 278-8899 | www.portwell.com

#### Portwell CAR-4010



Portwell's CAR-4010, a functional and modular 1U rackmount communication appliance, is based on the Intel C206 chipset, which offers a wide range of CPU support, including Intel Xeon E3-1200 processors and Intel Core i3-2120 processors. CAR-4010 is a modular platform designed to help customers maximize flexibility and cost savings. Customers have options to install two PCI-E add-on cards or additional Portwell Ethernet modules. CAR-4010 also supports IPMI 2.0 remote network monitoring and management.

- LGA1155 Intel Xeon E3-1200 Series processors and Intel C206 chipset
- Dual-channel DDR3 1333/1066 memory platform, up to 16GB
- Eight onboard RJ-45 Gigabit Ethernet ports with PCI-E Gen. 2.0 technology
- Two software-controlled Gen. 2 bypass segments

**Best For:** Server virtualization and network security solutions for midsized and large enterprises.

Contact: (877) 278-8899 | www.portwell.com

## Aspen Systems Summit C220I.1F 2U Twin2 Server



The Summit C220I.1F packs unprecedented computing performance and data capacity inside a space-saving, energy efficient 2U chassis. The Summit C220I.1F includes four hot-pluggable systems (nodes). Each of these nodes supports dual processors using the latest Intel Xeon E5-2600 Series, Romley CPUs. Each node holds up to 256GB of ECC Registered Memory and three, Hot-Swap, 3.5" SAS/SATA hard drives.

- 2U 4-Node Rackmount Server
- Dual Socket Intel Xeon E5-2600 Series Processors (per node)
- Eight DDR3 DIMM Sockets (Up 256GB DDR3 ECC Reg) (per node)
- Three 3.5-inch Hot-swap SAS/SATA hard drive bays (per node)
- Dual-Port Gigabit Ethernet (per node)
- 53Gbps FDR Infiniband
- IPMI KVM over LAN support
- 1620W High-Efficiency Redundant Power Supply

**Best For:** High-density data centers and high-performance computing applications and clusters.

Price: Starts at \$8,200

Contact: (888) 227-1286 | www.aspensystemsdirect.com

# Buying Tips: Servers

BUYING A NEW SERVER takes significant prep work. Beyond pinpointing the data center's exact needs and how the server will meet them, there are budgetary, future-proofing, compatibility, and vendor considerations to address, as well. To ease the task, consider the following.

**Determine what's important.** Charles King, president and principal analyst at Pund-IT, counts CPUs, memory, and I/O as the most critical server features, though their relative importance depends on the application and workload they'll support. Companies running a business-critical database or online transaction program, for example, should eye a higher-end CPU/ system than what's needed for generalpurpose applications. For virtualizationrelated use, spend more for extra memory and I/O. Max Haskvitz, general manager of eRacks (www.eracks.com), considers stability (quality components, trustworthy CPU and memory combo, etc.), redundancy (RAID and RPS availability), and compatibility with your current environment and software important. Upgradability is also vital, he says: "Why would you spend thousands or even millions on servers that you can't use two years down the line?"

Virtualization and consolidation. John Sloan, lead analyst for virtualization and consolidation at Info-Tech Research Group, says that unlike the distributed processing world in which servers had a one-to-one relationship with applications, consolidation and virtualization are becoming the norm today. This year, Info-Tech found that among organizations it surveys, more than half of their server workloads were running on virtual machines on average, Sloan says.

In this space, Sloan says it's important to know how a new server will fit into a consolidated stack that includes servers, networks, and storage. Unlike distributed models, "in a consolidated infrastructure, the server is a unit of hard capacity (processing and memory) that's combined with networks and storage in a resource pool that's partitioned up into virtual entities." Increasingly, he says, enterprises aren't buying servers but blocks of capacity. What differentiates current offerings "is how the interconnects are managed and how the whole thing is managed as one resource pool," he says. Typically, blade



servers are the form factor for consolidated offerings, he says.

Trends to watch. Haskvitz says most trends for servers currently are cloud-related. Here, multiple-node servers are a great investment, he says. King advises IT to "bone up on the underlying technologies in cloud and determine whether they could benefit from engaging with cloud service providers or SaaS vendors." Haskvitz says larger-density, smaller-footprint systems represent another server-related trend, while King says numerous vendors are leveraging flash and SSDs to provide a substantial boost to overall system performance and advises that companies that consider high-end processing and performance important "should definitely take a look at it."

Budgetary considerations. "A good vendor should leave you with no questions," Haskvitz says, but because enterprises

are different, this sometimes can be difficult to accomplish. Questions should focus on the support you can expect, whether devices have been tested in environments similar to yours, how the vendor's brand compares to your current brand, whether cost-savings are built in, and how long the vendor anticipates the units will be available. Budget-wise, some new vendors try to make the majority of their money on support or software, he says. A competent IT department that can find an open-source solution for its appliance or application needs, he says, can probably cut up to 50 to 60% of the cost. Additionally, Sloan says, "In any infrastructure purchase, the upfront capital acquisition cost is just part of the deal. Three- to five-year total costs should be calculated, including maintenance and facilities costs."

#### BUYERS' CHECKLIST

- ✓ Match the application and workload the server will support to the CPU, memory, I/O, storage, and other components they'll require.
- ✓ Recognize that virtualization, consolidation, and cloud computing are trending areas where servers are concerned
- Ensure the vendor satisfies all questions concerning support, compatibility, performance, etc.

#### **KEY TERMS**

#### Configuration.

Refers to a server's makeup in terms of components (CPU, memory, storage, etc.), OS, and the like.

#### TCO.

Server-wise, total cost of ownership includes the server's initial acquisition cost but also associated maintenance, facilities, cabling, and other expenses covering three to five years.

#### FEATURED PRODUCT

## Products Prepared For Real-World Use

Server Technology & PDUs Direct Know The Importance Of Product Testing

MOST COMPANIES PERFORM some form of testing on their products to ensure that they are in good working condition before being shipped to customers, but Server Technology, experts at producing the highest standard of quality PDUs, goes above and beyond basic testing with its 100% Product Performance Testing. The process includes putting each product through a series of tests designed to push it to its limits, which results in highquality products with low failure rates.

The reason Server Technology decided to perform these tests on every product for 27 years is much simpler than you may think. "The worst thing for a customer is to open a box, plug a product in, and

it doesn't work," says Jim Scherr, director of sales and operations at PDUs Direct (www .pdusdirect.com), the master distributor of Server Technology PDUs. "The overarching reason for doing the power testing is simple: to make sure that any product that leaves our building functions as per designed and meets all the criteria of the customer. We're committed to always providing the quality and value that our customers expect."

The first and foremost benefit of Server Technology's 100% Product Performance Testing is that customers can have peace

designed and have less of a chance to fail, according to Scherr. Server Technology's major goal is to help keep their customers' physical infrastructure up and running so they can be as productive as possible.

#### **Testing From Beginning To End**

With 100% Product Performance Testing, it isn't just a matter of testing a product after it's completely built. In fact, these products are tested throughout the manufacturing

Server Technology
Solutions for the Data Center Equipment Cabinet

PDUs direct

The variety of tests performed on the products run the gamut from thermal, shock, and vibration testing to compliance with ATE (Automated Test Equipment) tests, as well. It all leads to the final tests, which are designed to test the product in real-world applications and make sure they are ready for the customer once and for all. All tests are performed in a state-of-the-art Power Lab.

"All products are tested at all stages, starting from when the product is in its infancy

> to when it has become finalized," Scherr says. "Just before it goes out the door after the final modification, we test it once again. We don't just test it by plugging it in and making sure the lights come on; we plug it in and we load every receptacle.

that, functionally, the product fully works under the conditions it will see in the future."

We just want to make sure

#### A Partnership Between Manufacturer & Customer

PDUs Direct sells a wide variety of Server Technology products, including basic, switched, and metered Rack PDUs, and all of them go through the 100% Product Performance Testing process. It's a combination of well-built, easy-to-use products and a degree of testing that isn't often seen in the IT industry. Current customers notice this because, according to Scherr, they "really appreciate the due diligence being done prior to them getting the products."

And Server Technology, along with PDUs Direct, sees its relationship with customers as a mutual partnership, which is why 100% Product Performance Testing was put into practice in the first place. These companies strive to provide the best products available with the highest amount of testing and lowest failure rates so that their customers can focus on running their businesses instead of fixing infrastructure issues.

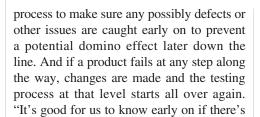
"The quality, reliability, and performance of our products are the most important benefits-to our customers and to us," Scherr says. "It's what we've built the company on and what we stand for every day."

#### SERVER TECHNOLOGY 100% PRODUCT PERFORMANCE TESTING

(800) 835-1515 www.servertech.com

Tests products at every step, from inception to production to sale, to ensure the highest quality and lowest failure rates possible.

33 Years Made in the USA



a problem because we can fix it here at our

manufacturing facility, which is so much of mind knowing that the products powerbetter and quicker than trying to fix issues ing their mission-critical devices work as or problems in the field," Scherr says.

## www.baytech.net Going Green!!! **Power Factor is Real**

and now it's Real-Time with the MRP Power Solution

Reach operational efficiency and conform to new Green Energy standards with the MRP outlet monitoring solutions.

BayTech's metered outlet modules report Amps, Voltage, VA, Watts, power factor and efficiency per receptacle.

Through our secure SNMP engine thresholds can be set to help identify equipment that is running inefficient.

#### **Standard Features**

- Single Phase and Three Phase
- 20,30,50,60 Amp Support
- · On, Off, Reboot option
- · HTTPS, SSH, SSL Access
- Radius, TACACS Authentication
- Tool less Mounting

#### **Unique Features**

- · Modular Design
- · All Receptacles Monitored
- Power Factor per Outlet
- kW Hour Meter per Outlet
- Current, Voltage and VA and Watts
- · Reliable PCB Power Distribution
- Fail Functional Design

#### **Metered Outlet - MRP**

#### Additional Unique Features



#### All Circuit Breakers Monitored

Most metered power solutions only monitor input power. BayTech monitors all circuit breakers and reports via SNMP when thresholds are met.



#### Outlet Metering with Efficiency

Monitor individual outlets and receive current, watts, and volt-amps. Continuously monitoring equipment for efficiency with power factor.



#### Locking C13 Receptacle Optional

Reliable integrated locking clips assure power cord retention. Unique to the industry and does away with nuisance wire clips.



#### Reliable PCB Power Distribution

ISD's (Insulation Displacement) connectors are faulty and unreliable! All BayTech power solutions use reliable PCB power distribution.



#### Integrated Sensor Inputs

Eliminate the need for extra environmental monitoring devices. All BayTech power solutions offer two ports for external temperature and humidity probes.



## Colocation Providers

#### 360 Technology Center Solutions



360TCS, LLC is a premium provider of enterprise-level colocation and data center services. Strategically located in the Chicago suburbs, the 360TCS data center features an ultra-efficient, environmentally friendly Tier III design providing our clients with 100% uptime. As an SSAE-16 Type II audited facility, the 360TCS data center provides a physically secure, fully redundant environment, ideal for supporting mission-critical data and hardware deployments.

- Power densities in excess of 32kW per cabinet
- 24/7 onsite security and surveillance
- Reliable connectivity with access to multiple carriers
- 2N redundant, energy-efficient chilled water cooling system
- Cost-effective, customizable solutions
- Multiple levels of support and remote hands services available

**Best For:** Enterprises looking to add a level of redundancy to their IT infrastructure. Ideal for high density deployments of blade server technology, power-hungry storage arrays, and high performance computing clusters.

Contact: (888) 313-1306 | www.360tcs.com

## RockyNet Data Center & Cloud Solutions



RockyNet personalizes its offerings to meet your business needs. In business since 1996, the company's experts have the knowledge and experience necessary to guide you to your goals. RockyNet has 24/7/365 onsite technical support to ensure that your mission-critical data is kept safe and secure. Its SAS-70/HIPAA-compliant data center offers colocation, managed servers, Web hosting, and virtual cloud machines in order to provide all of your data services. RockyNet provides redundant sites, UPS/generator power, N+1 cooling, multiple Gigabit Ethernet ports, and static-free raised flooring. Whatever your needs, RockyNet's tech team will work with your enterprise's tech team to find the best solution for you.

- · Colocation, managed servers, and virtual cloud machines
- Third rack, half rack, full rack, and private cages
- 24/7/365 onsite support
- HIPAA and SAS-70 compliant

**Best For:** Businesses that would like assistance in their physical or cloud approach to colocation.

Contact: (303) 444-7052 | www.rockynet.com

#### Starpoint Digital



Located 30 miles outside of Chicago, the Starpoint Digital data center offers colocation services geared toward medium to large-sized businesses. Service is fast, secure, and reliable, with both managed and unmanaged colocation offerings. Additional features include both high-level and low-level tech support, IP addresses, DNS hosting, device monitoring, and more.

- Shared and private colocation
- VoIP cloud PBX
- · Cloud server and desktops
- · T1 and fiber dedicated access
- Managed backup, firewall, and SQL

**Best For:** Enterprises looking for inexpensive shared rack space with a variety of added features.

Contact: (877) 968-7638 | www.mystarpoint.com

#### **NetSource Communications**



NetSource Communications, a hosting solutions provider located just outside of Chicago, offers colocation services with the rack space, power, bandwidth, and security for any enterprise. NetSource offers advanced managed services with a colocation agreement, including firewalls and data backups. Experienced technicians are on hand for support and to help customize a server architecture for any particular need.

- N+1 redundancy built into the data center infrastructure
- Variety of colocation and managed service packages available
- Strict security with 24/7/365 video surveillance
- Unique options for different sizing or pricing needs
- Low latency bandwidth, with almost unlimited bandwidth available
- Flexibility in power needs

**Best For:** Enterprises in need of a colocation solution with a variety of sizing and pricing options.

Contact: (866) 778-1212 | www.ntsource.com

#### OCOSA Communications



OCOSA Communications is a family owned and operated facilities-based provider headquartered in Tulsa, Okla. From hosting to connectivity and data center to IT consulting, OCOSA can tailor a solution to fit your needs. OCOSA understands the small business and specifically the cycle of business. For almost a decade, OCOSA has been tailoring solutions for businesses in almost every market vertical. Upgrade to OCOSA and let them work for you.

- Shared and dedicated hosting
- Shared and private cloud hosting
- Colocation (single servers, half to full cabinets, and custom rooms)
- Metro Ethernet, dedicated Internet access, and MPLS connectivity
- IT consulting and support
- Online backup and disaster recovery

**Best For:** SMBs wanting a hosting solution specifically tailored to their organization's needs.

Contact: (866) 93-OCOSA | www.ocosa.com

#### CoreSite



CoreSite, operating since 2001, offers customized data center services for any need. The company offers flexible services in order to exceed standard colocation operations, providing a range of sizing, cooling, power, and space options. CoreSite data centers are designed with reliability, scalability, and flexibility in mind. All colocation solutions in CoreSite's 2 million square feet of data center space are adaptable according to the customer's requirements.

- Cabinet by cabinet, private cages, and private data center suites available
- Cage power densities up to 300W per square foot
- Cooling facilitates up to 15kW per cabinet
- Flexible cage space: 100 to 5,000+ square feet

**Best For:** Enterprises that need flexible, custom-fit solutions for colocation services.

**Contact:** (866) 777-2673 | www.coresite.com

*Processor*'s Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

#### **FORTRUST**



FORTRUST is a premium data center services company delivering high-availability enterprise infrastructure services to the business community. FORTRUST's premier offerings include adaptable colocation space for any size enterprise supported by highly reliable power and cooling infrastructure, connectivity, and physical security, as well as a comprehensive suite of managed services to safeguard mission-critical business services.

- 224,000-square-foot facility located in Denver
- Highly reliable critical systems infrastructure featuring 2N+1 UPS distribution
- Layered 24/7 onsite security, Network Operations Center, and customer support staff
- Carrier-neutral connectivity options from a variety of popular carriers
- SSAE 16 SOC 1 Type 2 and SOC Type 2 compliant facility

**Best For:** Companies seeking colocation services with a focus on uptime, risk mitigation, and value-added services.

Contact: (866) 976-9379 | www.fortrustdatacenter.com

## OnRamp HIPAA-Compliant Colocation



OnRamp's data center

team of HIPAA implementation experts works with its data center customers to build a comprehensive, HIPAA-compliant hosting solution that addresses the confidentiality, availability, and integrity of electronic personal health information. OnRamp has developed a 3-step process, rooted in the company's highly secure managed hosting, cloud computing, and colocation services, to diagnose, assess, and manage any threats, vulnerabilities, and risks to your IT infrastructure.

- OnRamp HIPAA-Compliant Colocation services meet the rigorous HIPAA compliance standards
- OnRamp 3-step HIPAA Risk Management Process assists each customer in making appropriate decisions as to how to use OnRamp's services to effectively and efficiently protect the customer's sensitive patient data
- OnRamp features the highest levels of security, reliability, redundancy, technical expertise, and monitoring 24/7/365 for HIPAA-Compliant Colocation

**Best For:** Any company that works with healthcare data and patient records.

Contact: (888) 667-2660 | www.onr.com

#### Hostway



Hostway is a colocation provider with data centers located in the United States and Canada. Hostway's new hybrid solution blends colocation services with cloud services for a customized configuration for any enterprise's hosting needs. Organizations are able to leverage prior investments in infrastructure and utilize colocation for legacy applications that cannot be migrated to new servers. Hostway provides colocation with the ability to connect to either public or private clouds for disaster recovery, burst capacity, and other Web needs.

- Flexible pricing options with ability to shift contracted spend if needs change
- State-of-the-art security with 24/7 live monitoring and tech support
- · Various sizes of cabinets available to fit any need
- Managed firewall, intrusion detection, load balancing, database administration, and more available

**Best For:** Enterprises wanting an experienced colocation provider with a proven track record to keep your data secure and available.

Contact: (866) 467-8929 | www.hostway.com

#### CoreXchange



From smaller-scale, affordable Half Cabinet options to Private Cages for customers needing more space, CoreXchange has the right size of solution to meet any enterprise's needs. All of CoreXchange's colocation solutions are available for purchase online and provide customizable power, bandwidth, and network features to ensure that you get the performance you need for a price you can afford.

- Power, bandwidth, and IP addresses
- Burstable or unmetered bandwidth options
- Bandwidth from 1Mbps to 1000Mbps (up to 10 Gig available)
- Selections for redundant power drops, network handoffs, and cross-connects
- SSAE 16 SOC 1 Type II-compliant data centers
- 24/7/365 onsite NOC support with free remote hands and eyes services, including reboots

**Best For:** Any company looking for a reliable, secure colocation solution with always-available support.

Contact: (877) 271-7737 | www.corexchange.com

#### Green House Data



#### an economically responsible data center

Green House Data is an enterprise class colocation facility delivering state of the art services to businesses of all sizes. Our customers rest assured that their critical applications are always available in our N+1 redundant, highly secure facility. Our experienced employees are always happy to assist with any infrastructure needs. Powered entirely by renewable wind power, our energy efficiency is 40% better than typical data centers. We pass this power savings to our clients to offer highly competitive rates on all of our services.

- Cloud hosting, managed hosting, and disaster recovery also available
- 100% service level agreements
- 24/7/365 network monitoring, support, and access
- 10Gbps to 40Gbps point to point and Internet access available
- SSAE 16, Type II Compliant

**Best For:** Video and digital imagery companies that are looking for a reliable, highly available colocation facility that provides a sustainable business model at affordable prices.

Contact: (866) 995-3282 | www.greenhousedata.com

#### Vaultas



Based in Minnesota, Vaultas specializes in state-of-theart, highly secure colocation facilities where its customers can store mission-critical data, whether for real-time daily access or secure offsite backup or storage. The company offers fast, reliable Internet access and turnkey IT services that guarantee access to your data in the event of an emergency. Vaultas' data center and business continuity services are vendor-neutral and meet compliance requirements for such regulations as Sarbanes-Oxley.

- Reduced total cost of ownership through energy conservation and vendor collaboration
- Disaster recovery, business continuity, colocation, data storage, and network and VoIP services
- Emphasis on security, reliability, and regulatory compliance

**Best For:** Companies looking for a reliable disaster recovery option for their mission-critical data and services.

Contact: (800) 998-2858 | www.vaultas.com

#### Compass Datacenters



Compass Datacenters builds and operates Truly Modular Data Centers providing dedicated customer solutions where they need them. Compass Datacenters' **patent pending** Truly Modular™ solution uses four standard modules to cost effectively deliver dedicated, hardened, Tier III certified\*, LEED Gold data centers to businesses in the 98% of the country not covered by the data center industry. Through our innovative use of technology, and by leveraging our extensive customer and data center experience, we have designed a solution that removes the unnecessary complexities associated with data center design, construction and operations to provide you with an alternative that is easy to plan, implement, operate and grow.

**Best For:** Businesses requiring Tier III, LEED Gold Data Centers

Contact: (877) 289-7577 | www.compassdatacenters.com

#### ViaWest



ViaWest's 22 data centers provide a solid data environment for peace-of-mind and a foundation that's safe, secure and incredibly reliable. Colocation from ViaWest is the ultimate solution for physical security, disaster mitigation, fire detection and suppression. With a 100% customer satisfaction SLA, ViaWest prides itself on its customer centric philosophy. ViaWest provides hybrid configurations allowing customers to cross connect their colo environment into its cloud, managed services and complex hosting solutions. ViaWest's redundant, diverse infrastructure is built to maximize uptime, with our facilities scaled to your individual needs. ViaWest has received SSAE 16 Type II SOC 1 Report, SOC 3 Report, and PCI Report on Compliance for Sections 9 and 12.

**Best For:** Companies looking for customized colocation services in a number of different industries, including healthcare, media, and enterprise.

Contact: (877) 448-9378 | www.viawest.com

## Do you have a

## NEW

that
data center
and
IT managers
would be
interested in
learning
about?

Send your press release or related product information to press@processor.com.

#### Latisys



Latisys delivers IT Infrastructure Outsourcing solutions to help businesses focus on growth and achieve an optimal return on their investment in laaS:

- IT Off-premise: secure, redundant, highly available and high-density national Tier III data center footprint for customer colocation
- IT Off-load: full suite of managed services that alleviate customers from performing routine IT maintenance tasks
- IT Optimize: managed hosting and virtualization platform that enables customers to leverage state-of-theart technological advances and hardware innovations without incurring any capital expenses
- IT On-demand: enterprise cloud laaS solutions that give customers more control of costs and compute resources within a secure and elastic platform

**Best For:** Enterprises, government agencies and service providers that are looking for a growth partner to collaborate with for strategic, rapid time-to-value solution design as well as depend on for expertise and prompt and professional service delivery of end-to-end laaS solutions.

Contact: (866) 956-9594 | www.latisys.com/processor

#### MASSIVE NETWORKS



MASSIVE NETWORKS facilities, located in Englewood, CO, provides a secure, reliable and scalable foundation centrally located in the United States and 35 ms coast to coast latency. Massive Networks facilities are specifically designed to provide a state-of-the-art Data Center Colocation, Internet / Bandwidth Services, Cloud Computing Services and VoIP for your mission-critical infrastructure and applications demands. MASSIVE NETWORKS provides a scalable business in a box and the ability to provide high-density co-lo solutions on demand. Private networks in the massive cloud = security.

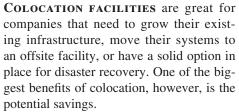
- Power and cooling densities exceed 24KW per cabinet
- SSA-16 / PCI / HIPAA Compliant
- Private Network Transport (PNT)
- Data center blended bandwidth to your Location

**Best For:** Companies in need of the following: Hosted PBX / SIP trunks, Cloud Computing Services, Metro Ethernet, Colocation, Hosting, Internet, Disaster Recovery, Backup, Antivirus

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**BUYING TIPS:** 

# Colocation Providers



"Traditionally, companies that choose to build their own data centers have to spend additional capital upfront to ensure that the data center will be capable of handling their short-term and long-term needs," says Keith Greene, vice president of data center operations at Peak 10 (www.peak10.com). "Colocation, cloud, and managed services providers help companies to manage their capital and operational dollars to be the most efficient for their business."

Before you can take advantage of colocation, there are a few things you need to know. With the help of experts, we'll show you what to look for in a colocation provider so you lower your infrastructure costs and meet your company needs.

Understand the components of the colocation facility. Before you start looking at potential colocation providers, you should first research everything that goes into a colocation facility and how it will affect your company's needs and overall costs. Colocation facilities comprise much of the same IT equipment as onsite data centers, including electrical distribution, chillers, computer room air conditioning, uninterruptible power supplies, and more, says Greg Elliott, director of business development at 1102 Grand (www.1102grand.com).

Elliott says that some companies can opt for public colocation data centers to take advantage of the aforementioned equipment, but still be able to maintain control of their data center equipment itself, which includes servers, routers, and more. In the end, it comes down to how much of its systems a company wants to put into colocation and how much should remain onsite.

Decide how much space and power your company needs. After the research phase, you should use the knowledge gathered to analyze how large of a space and how much power you'll need to keep your equipment up and running. This will not only affect the overall performance of the colocation facility, but also affect the overall costs associated with it.

"There are a number of important considerations when choosing colocation space, including physical security, access, redundant infrastructure, power capacity per square foot, service provider flexibility in equipment hosting, and cost, to name

a few," Greene says. "It is well worth the effort to calculate the maximum power draw under peak load for all of the equipment in consideration for colocation hosting beforehand, as well as understanding the need for redundant circuits."

Know the costs associated with colocation. With a good idea of how much space and power you need, you can also start considering the costs associated with your needs. According to Elliott, many colocation providers, including 1102 Grand, "use a space component and power component to determine monthly pricing for most spaces." Elliott adds that there will also generally be a one-time setup fee for space and connectivity. He recommends that companies make sure that all of these items are detailed in the quote and the contract or agreement so that companies know exactly what they're paying for.

Look at a provider's customer service and security offerings. Make sure you find out whether a colocation provider offers 24/7/365 customer service, so you know support will always be available when your company needs it. Look into a provider's security systems, as well, because saving money on infrastructure is only viable if your crucial systems are properly protected. Look for providers that offer a layered security approach and give you access to your systems so you can monitor them at will.

Make sure there is room for expansion. One of the most important things to consider when choosing a colocation provider is whether the space you invest in has enough room for you to expand. Most companies expect business to grow over time, and it's important that colocation facilities have the flexibility to grow along with you.

"Companies can look to colocation, cloud, and managed service providers to buy and grow infrastructure to meet their business demands," Greene says. "Financial viability and a growth strategy are important to make sure your provider can handle future requirements."

#### BUYERS' CHECKLIST

- ✓ Who owns the colocation facility?
- ✓ What are your short- and long-term plans for the facility?
- ✓ What options are in place for potential company growth and expansion?
- ✓ How much power and space do you need?
- ✓ Does the facility offer 24/7/365 customer service?

#### Key Terms

#### SAS 70.

Stands for Statement on Auditing Standards No. 70 and is one in a long line of SAS auditing standards. SAS 70 relates to service providers, such as colocation providers, and is used to audit service controls and operating performance.

#### Cabinets, cages, and suites.

Terms used to describe how much space a company needs for its colocation resources. Cabinets are for companies that only need a small amount of space, and suites, vaults, or rooms are required for larger-scale colocation needs.

## **PDUs**

#### Server Technology POPS Switched CWG-24V5 415V CDU



Server Technology's POPS Switched CWG-24V5 415V 3Ph 20/30A Busway 18xC13 & 6xC19 with PIPS combines all of the features of a Smart CDU with the ability to provide power monitoring per inlet/infeed. This power information per infeed replaces branch circuit monitoring devices typically installed in the power distribution panel or remote power panel (RPP) with higher accuracy and lower cost monitoring of each circuit attached to the CDU. Also included is a mixed outlet Cabinet Power Distribution Unit with the network and serial-based power monitoring and alerting capabilities of the Switched Cabinet CDU plus the ability to monitor:

- · Current Load (A)
- Voltage (V)
- Power (W)
- Apparent Power (VA)
- Crest Factor
- Power Factor

**Best For:** Data Centers that want granular, accurate power information.

Contact: (800) 835-1515 | www.servertech.com

## Server Technology POPS Switched CWG-48VD/VY CDU



This Sentry POPS/PIPS CDU combines all of the features of a Switched CDU with the ability to provide power monitoring per inlet/infeed. Power information per infeed includes current, voltage, power, apparent power, crest factor, reactance, power factor and accumulated energy. This information replaces branch circuit monitoring devices typically installed in the power distribution panel or remote power panel (RPP) with higher accuracy and lower cost monitoring of each circuit attached to the CDU.

- Per-outlet data includes current load, voltage, power, apparent power, crest factor, and power factor
- Available in 0U, 1U, and 2U form factors
- Best when used in conjunction with SPM v5.0

**Best For:** Data Centers that want granular, accurate power information.

Contact: (800) 835-1515 | www.servertech.com

#### PDUs Direct C-24V2-L30MA



PDUs Direct's C-24V2-L30MA is a metered three-phase rack-mountable PDU that lets users load balance using LED load meters. This zero U unit features 12 IEC C13 and 12 IEC C19 outlets, a three-phase IEC 60309 60A in-feed plug, and three integrated local amp meters. This metered rack PDU provides nearly twice the power density of a standard 208V circuit and robust power distribution for your equipment without taking valuable rack space.

- Steel case enclosure
- Mixed C13 and C19 industrial-grade outlets
- High-quality powder coat
- · Input current monitor with true RMS reading
- Hardwired IEC 60309 power cord
- 3-phase/60A

**Best For:** IT managers who need to save space for equipment and ventilation.

**Price:** \$1,045

Contact: (888) 751-7387 | www.pdusdirect.com

## Rackmount Solutions Custom Power Offerings



Even with hundreds of standard power and data protection and distribution products available, you may not be able to find a fit for your application. Rackmount Solutions listens to your requirements and then works with you to design and build a solution. Your application drives the design. A multitude of housing profiles, wiring, and receptacle choices are available. All of Rackmount's products are designed and tested to ensure unmatched reliability and quality, and your configurable solution is proudly made in the USA. Tell Rackmount what you need, and they'll provide a quote.

- Metal housing
- Color coded available
- NEMA 5-15P, 5-20P, or L5-30P
- Twist lock available
- Cord length of your choice
- All custom products made from UL listed components
- 25-piece minimum order

**Best For:** Data centers with specific custom applications.

Contact: (866) 207-6631 | www.rackmountsolutions.net

## Rackmount Solutions InfraPower MT-Monitored Rack PDU Series



The InfraPower MT-Monitored Rack PDU series from Rackmount Solutions is designed for mission-critical data center applications. The units offer local and remote RMS current monitoring, a digital RMS amp meter that is easy to read, and a Web-based GUI for real-time management and monitoring. Available in both vertical and horizontal form factors, the PDUs have between two and 24 receptacles and feature a two-year replacement warranty.

- Sends email alerts
- Users can set their own alert parameters
- Supports a range of data center output receptacles
- Can daisy-chain up to 16 intelligent PDUs

**Best For:** Mission-critical data center hardware monitoring.

Price: Starts at \$440

Contact: (866) 207-6631 | www.rackmountsolutions.net

## Rackmount Solutions InfraPower MTS-Switched Rack PDU Series



The InfraPower MTS-Switched Rack PDU from Rackmount Solutions is an industrial-grade offering that provides local and remote RMS current monitoring and control. It features a digital RMS ammeter for amperage monitoring, and the Web-based GUI lets users monitor and control the individual receptacle outlets either locally or remotely. Backed by a two-year replacement warranty, the MTS-Switched Rack PDU Series meets or exceeds all international standards for rack-mounted power distribution units and is UL-, UCC-, and CE-certified.

- Accurate, easy-to-read RMS ammeter for local aggregate monitoring
- Web-based GUI management and control
- Email alerts triggered by user-defined parameters
- Supports a daisy-chain connection of up to 16 intelligent PDUs
- 0U (vertical) and 1U or 2U rackmount styles available

Best For: Mission-critical data center hardware monitoring.

Contact: (866) 207-6631 | www.rackmountsolutions.net

*Processor's* Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

#### PDUs Direct CB-12H2-C20



The CB-12H2-C20 from PDUs Direct is an industrial-grade metered rack-mountable 208V PDU with 12 IEC C13 outlets, a twist-lock NEMA L6-30P in-feed plug, and a local amp meter. This unit provides high power density and dependable power distribution for your equipment racks in a 1U form factor. The Metered PDUs include local LED input current monitoring, which lets users precisely measure the amps drawn and observe the impact of new equipment as well as cumulative current draw.

- · Steel case enclosure
- · Industrial-grade outlets
- · High-quality powder coat
- Input current monitoring with true RMS reading
- Hardwired L6-30P power cord
- .208V/30A

**Best For:** IT managers who need to save space for equipment and ventilation.

**Price:** \$270

Contact: (888) 751-7387 | www.pdusdirect.com

#### iStarUSA Group Claytek WA-PD016 PDU



The WA-PD016 from Claytek (powered by iStarUSA Group) is a 16-outlet power distribution unit that provides protection from power surges and lightning. Set in a vertical orientation, the UPS is modular for convenience.

- 16 outlets
- Modular and replaceable surge unit
- Power and surge LED indicators
- Circuit breaker with prompt overload protection response
- RoHS-compliant

**Best For:** Small businesses in need of an easily managed PDU solution.

**Price:** \$110

Contact: (888) 989-1189 | www.istarusa.com

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about?

#### Black Box Metered Vertical PDU



Black Box's Metered Vertical PDU is a space-saving strip with 24 NEMA 5-20R outlets that measures and displays AC current. It mounts to the vertical rails of a cabinet or rack.

- Three-digit LED display shows current draw
- Alarm notifies you when current threshold has been reached
- Includes a 15-foot (4.5m) NEMA L5-20P power cord

**Best For:** Adding outlets in tight spaces while keeping track of current draw.

**Price:** \$185.95

Contact: (877) 877-2269 | www.blackbox.com

#### Black Box Outlet-Managed PDUs



The Black Box Outlet-Managed PDU provides complete power control for network devices, including capabilities such as remote and timed individual outlet switching, auto on/off/reboot, load shed switching, and outlet sequencing. It enables power switching for individual network devices or for groups of equipment in an effort to allow data center administrators to save energy by automatically powering down equipment at night or on weekends when it's not being used.

- Monitors equipment power, changes in current levels, circuit breaker status, temperature, and unauthorized access attempts
- Sends alerts by email, text, SNMP, SYSLOG, or audible alarms
- Generates reports with detailed records of current and power consumption
- Can be set to ping equipment at set intervals and reboot if there's no response

**Best For:** Reducing energy and personnel requirements in data centers.

Contact: (877) 877-2269 | www.blackbox.com

#### **BUYING TIPS:**

## **PDUs**



WHEN PDUS BEGAN appearing in data centers and networking rooms a couple decades ago, they were little more than pricey power strips. Since then, PDUs have evolved into integral components of a modern power distribution infrastructure, delivering correct voltage and current to multiple outlets. Intelligent PDUs are even capable of measuring current load at the PDU level, sounding user-defined alarms, reporting levels and power cycling remotely, and supporting external temperature and humidity sensors. With so much riding on continuous uptime, here are some things to keep in mind when shopping around for the perfect PDU to keep things humming along.

Knowledge is power. According to Brett Femrite, director of business development at Rackmount Solutions (www.rackmount solutions.net), you have to do your homework prior to making a PDU purchase. "It is critical that the PDU you select match up with your power consumption needs and server/network equipment," he says. Femrite recommends making note of the type and quantity of outlets needed and whether you can daisy-chain for added capacity. Although the ability to expand capacity might not be critical now, having the option could save money down the road. Femrite also highlights form factor (vertical/ horizontal, rack/wall-mountable, or 0U), the amperage the PDU needs to support, and the type of PDU that best serves the requirements and needs of the data center as other key factors to consider.

"There are generally three types of PDUs: basic, metered, and switched," Femrite says. "Each type comes with its own set of features." A basic PDU, according to Femrite, lacks monitoring and remote administration capabilities but focuses on simple and effective power distribution. The next best option is a metered PDU, which has everything a basic PDU has, but adds a meter that lets users visually track amperage and GUI management software that lets users monitor the aggregate current being drawn on each PDU in real time. Switched PDUs support everything on a metered PDU and add local and remote control capabilities on a per-outlet level. Redundancy is another of Femrite's key points. "A dual-circuit PDU provides an added layer of fault tolerance by offering two power inputs," he says.

PDU pitfalls. The biggest mistake you can make in purchasing a PDU is getting one that isn't as capable as you need it to be. According to Femrite, "If you don't precisely match up the PDU with your power consumption needs, taking into account anticipated growth/increases, you can wind up having a

breaker tripped, which of course can cause a power outage that can be catastrophic."

Some factors that are easy to overlook include finding the right location (which is typically dependent on the form factor), how a switched PDU will be connected to the network, and how far the PDU will be from its power source. "It's much easier to tie up

some extra power cord than to move a rack full of equipment," Femrite says.

Plan ahead. Purchasing a PDU is a no-brainer, but getting the right one to meet your needs will require some careful consideration and a little planning ahead. Manage that, and everything else will fall into place.

#### BUYERS' CHECKLIST

The following tips were provided by Julie Brown, marketing manager at Server Technology (www.servertech.com).

- ✓ Do your homework and know the different types of PDUs. What type of PDU do you need for your data center? Choose from basic, intelligent, metered, or switched PDU options.
- ✓ Know your power needs, or consult an expert. Make sure you're buying the right PDU for the job. You want to make sure that the PDU you buy matches up with your power consumption needs. If you don't know what your needs are, bring in an expert who can help you determine them.
- ✓ Look for the best quality. You want the best quality you can afford for reliability and performance to power your mission-critical equipment.
- ✓ Service. You want a PDU from a company that provides tech support and services after the sale.

#### **KEY TERMS**

#### PDU.

A power distribution unit is any device that provides electrical power to servers, networking components, storage devices, and other data center equipment.

#### Intelligent PDU.

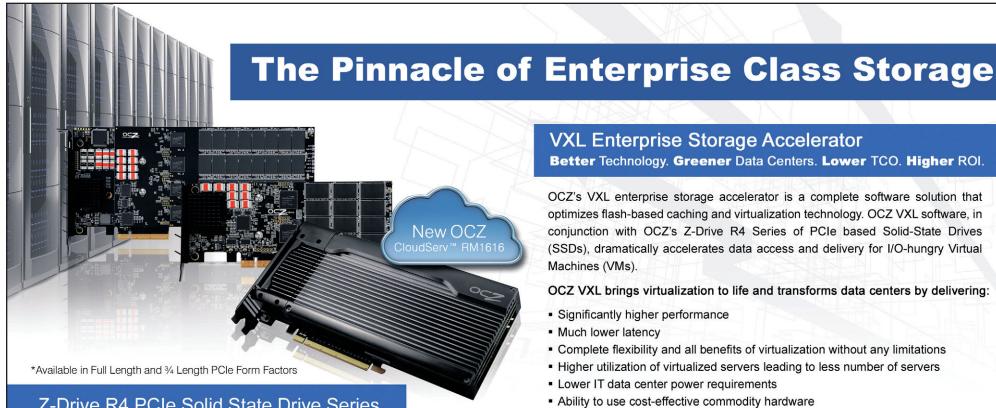
An intelligent PDU is any PDU that offers Web-based management, meter power at both the PDU and individual outlet level, and real-time power monitoring.

#### Metered PDU.

These PDUs can track current draw at the PDU level and display the data locally and often remotely, as well.

#### Switched PDU.

Users of switched PDUs can remotely switch connected devices on and off; some even afford outlet management technology.



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#### Is your outdated IT infrastructure holding your company back?



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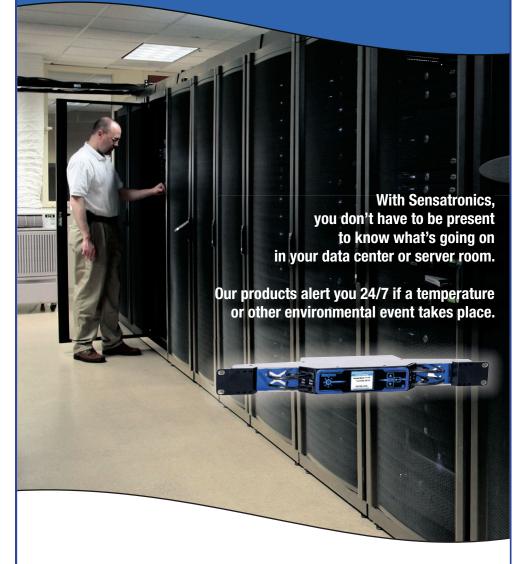
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## Equipment Recycling & Disposal

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DMD Systems Recovery works to minimize your risk and maximize your payback, so you'll get a solid return on investment without worrying about the possibilities of regulatory fines, bad publicity, or litigation from data theft on hard drives that weren't properly sanitized. DMD Systems Recovery offers data deinstallation, packaging, logistics, data destruction, recycling, and remarketing.

- Removal and packaging services to preserve value
- Increased ROI through direct purchase or profit sharing
- DoD 5220.22-M-compliant data wipe and NAIDcompliant destruction
- Reduced risk through certificates of destruction and compliance and transfer of ownership

**Best For:** Data centers, call centers, and companies with large centralized operations.

Contact: (877) 777-0651 | www.dmdsystems.com

#### WeBuyUsedTape.net



WeBuyUsedTape.net pays top dollar for your new and used tapes. WeBuyUsedTape has been in the business of purchasing new, used, excess, and surplus magnetic media for more than 35 years. It uses regulation-approved, secure data eradication processes and environmentally friendly disposal programs to give organizations a safe and economic incentive for recycling used media. No-obligation, confidential quotes on your tape media are available at any time. Onsite data destruction available.

- Simple process: Submit your list of media; receive a confidential, no-obligation offer within 24 hours; and ship your media to us.
- Processes meet HIPAA, Gramm-Leach-Bliley, PCI, Sarbanes-Oxley, and other regulation requirements
- Data Destruction Certificates document your transaction and provide proof of complying with recycling and data eradication processes

**Best For:** Enterprises needing a secure way to dispose of new, used, excess, and surplus magnetic media.

Contact: (800) 821-1782 | www.WeBuyUsedTape.net

#### U.S. Micro



U.S. Micro offers data sanitization services and demanufacturing capabilities to companies that need to retire IT assets securely and responsibly. The company deploys its own technicians, rather than subcontractors, to destroy data onsite at customer locations, every time, anywhere in the United States. IT assets are tracked every step of the way by an industry-unique proprietary electronic tracking technology called Enertia. Using next-generation technology, U.S. Micro is able to demanufacture any IT asset that cannot be sold.

- Data sanitization occurs at the customer's location
- Enertia safely tracks and certifies when all devices are data-free
- U.S. Micro technicians, not sub-contractors, handle every step of the process
- All assets are refurbished and resold or recycled; demanufacturing occurs at U.S. Micro's next-generation facility and nothing ends up in landfills

**Best For:** Enterprises in need of secure, environmentally responsible IT asset disposition services.

Contact: (888) 876-4276 | www.usmicrocorp.com

#### Techno Rescue



TechnoRescue is a Veteran-Owned, full life-cycle Green I.T. Company. We've serviced thousands of clients with Computer Electronics Recycling, e-waste disposal and Data Destruction, all with an emphasis on helping and protecting the environment. The company is registered as a Large Quantity Handler of Universal Waste with the Environmental Protection Agency (EPA) and is subject to state inspections and compliance reviews. We rigorously adhere to federal, state and municipal guidelines outlining the proper disposal of electronic waste. TechnoRescue is built on excellence, integrity and hard work and will continue to grow and build our company and relationships on the same values.

**Best For:** Businesses, organizations, enterprises, government who are looking for Professional Computer Electronics Recycling and Certified Data Destruction services

Contact: (303) 482-2207 | www.technorescue.com

#### CloudBlue



CloudBlue offers several e-waste management services for enterprises and consumers. Both onsite and offsite data eradication services can be provided using nationally and internationally recognized standards. Services available include refurbishment and repair, fair market value assessment, remarketing strategies, warranty support, repair services, and much more. Additionally, a dedicated program manager will assist with every operation.

- A certified e-Stewards recycler
- ISO 14001:2004 certified
- Onsite services available to help manage, de-install, or redeploy IT assets
- Qualified CloudBlue technicians available on location to ensure your assets and data remain secure
- High-level repair services available
- Safe and secure recycling methods meeting the highest of industry standards

**Best For:** Enterprises looking for a certified service provider to assist with the recycling, repair, or refurbishing of IT assets.

Contact: (866) 437-4258 | www.cloudblue.com

#### AnythingIT



With a suite of IT asset management services, including testing, auditing, and DoD data destruction and processing, AnythingIT helps government and commercial clients deal with aging technology and the regulatory compliance issues involved with managing it. AnythingIT's consultants will perform an IT asset review and analysis that uses a fair-market evaluation of your current technology.

- RecycleTomorrow® program saves costs in the remarketing and recycling process
- Can process IT assets at multiple ISO 14001-certified facilities globally
- Offers custom-designed channel and non-channel programs for OEMs and integrators servicing both government and commercial clients
- Knowledgeable in disposal processing, data mining, and warehouse systems for IT assets
- Unparalleled past performance servicing publicsector clients

**Best For:** Government and commercial enterprise organizations that need help making cost-effective business decisions for IT storage, disposal, resale, donations, and recycling.

Contact: (877) 766-3050 | www.anythingit.com

*Processor's* Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

#### 5R Processors



5R Processors specializes in recycling and repurposing your enterprise's unwanted electronics. Services include computer and electronics recycling (including metal recycling), refurbishing, and waste processing of scrap material, all helping to reduce the negative impact of e-waste.

- Closed-loop recycling used to create new products from destroyed and shredded equipment
- Environmentally aware recycling with accountability for all hazardous waste, minimizing contamination
- Accepts wide variety of equipment and components for recycling, including computers, mechanical equipment, utility and power equipment, various metals, and more
- Meets R2 and ISO 14001 certifications

**Best For:** Enterprises looking to recycle or refurbish their end-of-life equipment.

Contact: (715) 532-2050 | www.5rprocessors.com

#### Intechra



Intechra focuses on data security and protecting clients from liability by leveraging technology, processes, and customized solutions into the right mix of end-of-life asset management and disposal services. Intechra's IT asset disposition offers waste-free, worry-free service, covering all steps of the process, including logistics, data security, and the demanufacturing and recycling of materials.

- Ultimate data security protection
- Environmentally compliant disposal
- Comprehensive remarketing, redeployment, and donation strategies
- · Full indemnity against risk

**Best For:** Enterprise or global organizations needing a secure, compliant global IT asset disposal strategy.

Contact: (800) 393-7627 | intechra.com

#### Reclamere



Reclamere's experienced team works with you to develop a data security plan tailored to meet your data destruction, data recovery, and IT asset management needs. Reclamere's experts can also help you execute your legal responsibilities for each phase of the IT equipment life cycle, which helps protect your company, employees, and clients from data breaches.

- · Certified data destruction
- IT asset management for safe and secure preparation of electronic equipment
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#### BUYING TIPS:

# Equipment Recycling & Disposal



THERE COMES THE TIME WHEN enterprise equipment becomes outdated, needs to be replaced, or is simply no longer of use. Such situations require getting rid of the old to make room for the new. One viable option for dealing with old equipment is reusing it in another capacity, such as repurposing a once high-end server for an application that doesn't demand mission-critical performance. Another option is using a vendor that specializes in refurbishing, recycling, and disposing of old equipment.

In addition to handling equipment in an environmentally responsible manner, a vendor can help ensure you abide by privacy and compliancy regulations. Plus, there's the potential an enterprise can recoup some of its expenses if the vendor can resell the old equipment. When it comes time for you to find an equipment recycling and disposal vendor, the following advice can help.

Check for qualifications. Selecting a trustworthy vendor is a must. For example, Norm Hutton, head of sales and acquisitions at WeBuyUsedTape.net (800/821-1782; www.webuyusedtape.net), says his company purchases more than 60,000 surplus new and used data tapes monthly, preventing

more than 40,000 pounds of material from entering landfills. While 100% of the tapes are recycled, he says, most are recycled through reuse, which requires securely eradicating all data and testing and certifying the tapes before reselling them.

Hutton says to be sure a vendor is reputable and stable. Has the vendor been around a while? Can it provide references within your industry? Does it answer all questions and concerns? Will it provide documentation up front? Is the vendor compliant with policies and government regulations pertaining to your industry?

Morris Scott, CEO of DMD Systems Recovery (877/777-0651; www.dmd systems.com), says certifications to check for include ISO 9001, ISO 14001, and R2, which "are the most common and have widest global recognition and acceptance." Check that the vendor engages in EPA-compliant recycling. A vendor with reuse programs for equipment "can help smaller businesses and schools and is much easier on the environment," Scott says.

Follow the trail. When comparing vendors, know that there's a difference between providers of recycling and disposal services

and brokers. Hutton says, "Most companies represent themselves as the actual recycler or disposal company," but many are brokers that only sell products to others without touching the products. This increases security risks and lowers the return on your surplus assets. By using a vendor that actually provides the service, Hutton says, you can expect high return, not just another added layer of costs.

**Ask questions.** Ask prospective vendors if you can physically inspect their facilities, what security and surveillance they use, how they can assist with ROI for current projects, and what documentation processes they use.

Be sure to find out precise details on how equipment is picked up and handled, who pays for shipping and transport, how equipment is processed and how long it takes, where equipment ultimately winds up (recycled, refurbished, or resold), when you will get paid, and if the vendor can assist in other ways such as providing new products or offering credit from old equipment for obtaining new equipment. You also should consider checking what current accounts the vendor has, if it uses downstream vendors and who they are, and what liability and indemnification insurance it provides.

#### **KEY TERMS**

#### Data wiping.

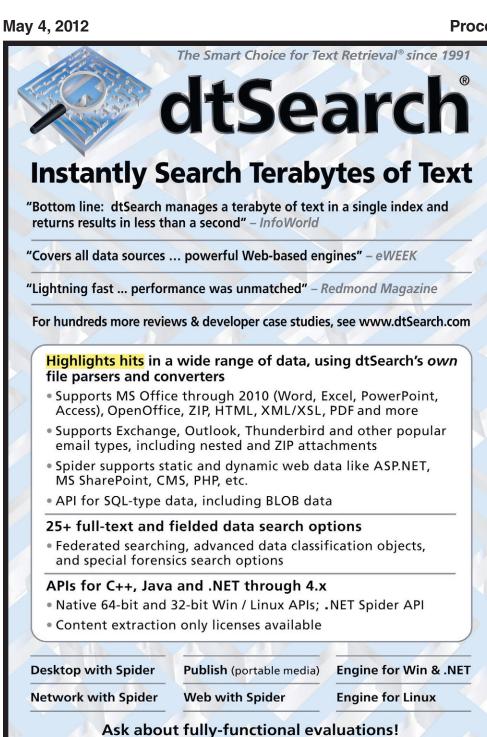
A process used for compliancy and privacy reasons in which data is entirely destroyed or erased from equipment such as hard drives.

#### Refurbished for reuse.

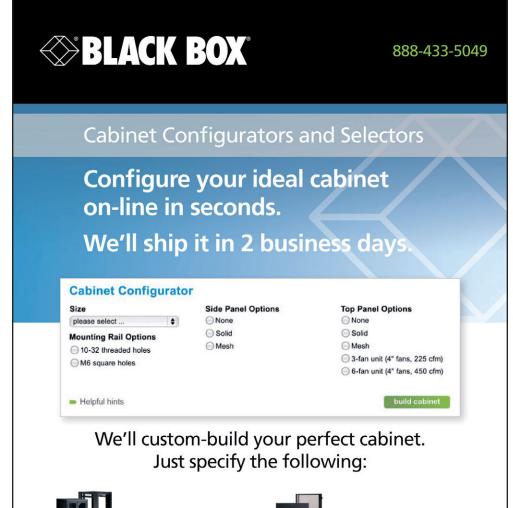
Old equipment that has been restored to be resold or donated for continued usage rather than recycling individual components.

#### **BUYERS' CHECKLIST**

- ✓ Homework. Compile a list of equipment you no longer need, determine its resale value, what businesses might purchase the equipment, and how the resale value help fund new purchases.
- Qualifications. Determine how long the prospective vendor has been in business, what its reputation is in the industry, and what compliancy and certification measures it operates by and has achieved.
- ✔ Broker or provider. Determine if the vendor actually provides recycling and disposal services or is just a broker of such services.
- ✔ Process. Clarify the methods the vendor uses to process equipment, including who handles equipment, where it goes, how long processing takes, and what documentation you can expect.



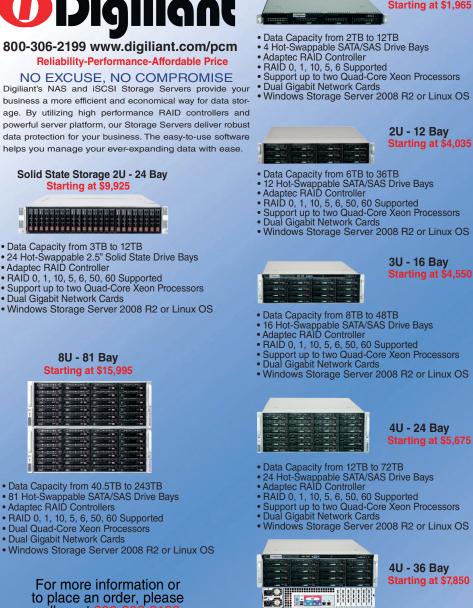




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## Networking

#### Anue 5273 Net Tool Optimizer



The Anue 5273 NTO (Net Tool Optimizer) is a carrier-grade, NEBS Level 3-certified solution that helps service providers achieve optimal network performance while meeting the increased bandwidth needs required by growing mobile and video content. The Anue 5273 NTO aggregates data from multiple network access points in a network and ensures the delivery of critical network traffic to the essential monitoring tools for complete network visibility. By enhancing the power of the existing network monitoring tools, network performance improves, team productivity increases, and potential risk of network outages decreases.

- A NEBS Level 3-certified device that meets highbandwidth demands of mobile and video content
- Add an optional Advanced Packet Processing solution for deduplication, extended burst protection, MPLS stripping, and packet trimming
- Other add-on solutions include an expansion module for CX4, XFP, and SFP+ interfaces and a remote power supply for redundancy

**Best For:** Any data center requiring telecommunications and cable service-provided network monitoring switches.

Price: Starts at \$30,000

Contact: (877) 268-3269 | www.anuesystems.com

#### Anue 5288 Net Tool Optimizer



The 5288 NTO (Net Tool Optimizer) is a high-density network monitoring switch that provides up to 64 10GbE ports or up to 16 40GbE ports in a compact 2U form factor. The Anue 5288 NTO aggregates data from multiple visibility points in a network and ensures the delivery of critical network traffic to the essential monitoring tools. The Anue 5288 NTO helps large enterprises monitor an increasing number of 1GbE, 10GbE, and 40GbE ports with their existing monitoring tools.

- Features front-to-back airflow and scalability for configuration options
- The non-block architecture (with 640Gbps total bandwidth) allows for network access point and full line monitoring tool traffic sharing
- Saves energy with a 2U design and low power consumption
- Capable of reducing network downtime

**Best For:** Enterprise data centers with increased bandwidth requirements due to higher processor density, virtualization, and SANs.

Price: Starts at \$72,000

Contact: (877) 268-3269 | www.anuesystems.com

#### Extreme Networks Ridgeline



The Ridgeline network and service management tool from Extreme Networks is a scalable, full-featured solution designed to provide timely updates for IP-based networks while simplifying network configuration, provisioning, and troubleshooting. Data center managers can get a topology view of the network, monitor with flexible scripts, and acquire network-wide data for both devices and users.

- Customizable installation lets administrators control the service management features
- Data Center Feature Pack supports ExtremeXOS network virtualization
- EAPS monitoring and configuration checking
- Includes audit logs and role-based access control

**Best For:** End-to-end monitoring of critical enterprise network processes.

Contact: (888) 257-3000 | www.extremenetworks.com

Do you have a

#### NEW PRODUCT

that data center/IT managers would be interested in learning about?

Send your press release or related product information to press@processor.com.

## Plixer Scrutinizer NetFlow & sFlow Analyzer



The Scrutinizer NetFlow Traffic Analytics solution from Plixer provides organizations with powerful insight into application traffic, bandwidth utilization, and security threats while providing powerful troubleshooting and forensics capabilities.

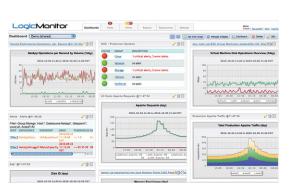
- Data center managers can archive infinite years of data during different periods
- Receive reports for top applications, conversations, flows, protocols, subnets, and other devices
- Supports reporting and alarming for SYN, NULL, FIN, XMAS scans, RST/ACK worms, and more

**Best For:** Monitoring, saving, and assessing data movement on the network.

Price: Free 30-day trial; \$3,495 to upgrade

Contact: (207) 324-8805 | www.plixer.com

#### LogicMonitor Hosted Monitoring



For companies that don't have the staff resources to devote an engineer to install, configure, and maintain an on-premises monitoring system, LogicMonitor's hosted monitoring takes the hassle out of monitoring. With no monitoring infrastructure to maintain, and requiring just minutes to deploy, LogicMonitor provides dashboard views of the health of all your networking gear, servers, applications, databases, storage, and virtual and cloud-based infrastructure, all from a single Web-based console, making it easier to pinpoint the cause of performance issues within complex technology stacks. A powerful alerting system proactively notifies your staff via email and SMS message to issues before they negatively impact your business.

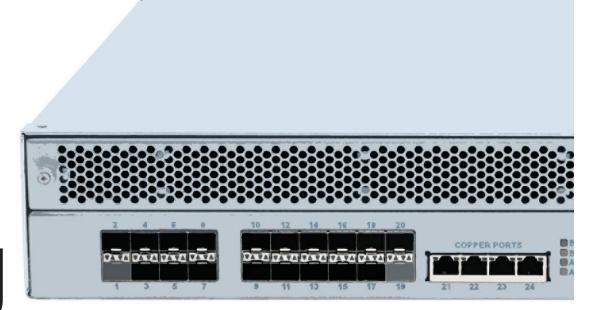
- Unlimited 24/7 email and SMS alerts
- Alert routing and escalation
- Historical trending data stored for one year
- Preconfigured monitoring templates for most data center devices

**Best For:** SMBs, enterprises, and service providers that don't want to build and maintain their own monitoring infrastructures.

Contact: (888) 415-6442 | www.logicmonitor.com

#### BUYING TIPS:

## Networking



THE HEALTH of a company's network is crucial to its productivity. As such, choosing the right monitoring system increases the commercial worth of your business, says Steve Francis, founder and chief product officer for LogicMonitor (www.logic monitor.com). "Monitoring is needed to reduce outages and improve performance and availability," Francis says. "While it needs to be done effectively, the amount of time spent configuring and managing the monitoring will reduce the ROI of the [system], as it takes the IT staff away from adding more value to the enterprise."

As you evaluate how you're going to manage your unique network and improve metrics overall, take into account the following key elements of network monitoring.

Weigh support options and customer testimonials. Because you're making a decision to partner with a service provider or roll out network monitoring software, you'll want to assess the quality of every potential vendor's ongoing support. Francis says that support can be a big differentiator, because there's always some level of learning. He recommends determining how available and engaged the support or on-boarding process is.

Customer recommendations as well as testimonials from the media and product reviewers should ease the burden of this process. According to Ken Sanofsky, general manager for North America at Paessler (www.paessler.com), "Every vendor is going to tell you they have the best product, but if you look at their customer testimonials, user stories, case studies, customer surveys, feedback from the press, and third-party product reviews, you'll get an honest picture of whether a solution is what the vendor says it is."

Look for business impact, not just features. Francis advises against comparing feature lists and instead recommends comparing the business impact of the monitoring systems you're researching. He explains that one system may have a bevy of features, but the way they're implemented means significant user time is required in order to utilize them. "Another system may only implement 80% of the desired features, but the missing 20% may only rarely be used and have minimal business impact," Francis says. "Any system that allows the same IT staff to effectively monitor more systems is a better choice."

**Don't overlook ease of use.** Both Francis and Sanofsky agree that a network monitoring solution that's not easy

to use isn't much good. "Network monitoring software needs to be flexible and fully customizable," Sanofsky says. "Every business has its own specific needs, so a network monitoring solution that is not customizable or able to monitor different aspects and devices simply won't work."

Francis highlights the importance of easily tuning and customizing alerts and thresholds. For instance, he says, you may want different CPU levels to trigger alerts for the different classes of hosts and you don't want to have to change thresholds on each device in monitoring.

#### BUYERS' CHECKLIST

- ✓ Do you prefer a service provider or a SaaS-based monitoring system?
- ✓ Does the vendor offer a starter edition or a free trial service?
- ✓ Are you considering outsourced or in-house monitoring?
- ✓ Does the service include an all-in licensing model?
- ✓ Is the product designed for the needs of a small to medium-sized business?
- ✓ What is the default depth of monitoring?
- ✓ Have you decided what changes you're willing to apply to your budget to cover the cost of new staffing and monitoring solutions?

#### **KEY TERMS**

#### Availability and bandwidth.

"Slow performance and outages can impact the bottom line of your business," says Ken Sanofsky, general manager for North America at Paessler (www.paessler .com). "Continuous monitoring enables you to find problems and resolve them before they escalate."

#### Distributed monitoring.

Sanofsky says monitoring solutions should be capable of monitoring multiple networks in different locations, such as subsidiaries (from headquarters), separated networks, and customer networks.

#### IPv6.

"Network vendors are preparing for the shift to IPv6, and it's important that network monitoring solution providers are on board," Sanofsky says. "Vendors should offer solutions that support the next-generation Internet Protocol, as this is the wave of the future."

#### Network usage.

Create individual usage reports and ensure that your network supports common data acquisition methods, including SNMP, WMI, packet sniffing, NetFlow, jFlow, and sFlow, Sanofsky says.

## Data Center Flooring & Accessories

#### FirstTech E-Z Lift Access Floor Panel Lifter



Anyone who's ever had to use a regular floor-lifter tool will

appreciate the convenience of the E-Z Lift. No more back strain from bending over and lifting heavy tiles with only your hand for support. Simply drop the E-Z Lift floor lifter tool with its dual suction cups on the appropriate tile, tilt the tool towards you, and pull. It's just that easy. The long handle on the unit allows you to stand and control the lifter as if it were a simple cane or even a golf club.

- · Heavy-duty five-inch double suction cup
- Mount has a bright red background (sold separately), making it easy to see in the event of an emergency or other time of need
- Made in America

**Best For:** Anyone looking for an easy way to grab and move floor tiles.

Price: Starts at \$139

Contact: (800) 743-6001 | www.firsttechcorp.com

#### Upsite Technologies KoldLok® Split Integral Raised Floor



The KoldLok Split Integral is the industry standard for sealing data centers and raised floor facilities. Its multilayer brush technology prevents the sagging that's common in competitive grommets. The KoldLok Split Integral greatly reduces costly bypass airflow, increasing usable cooling unit capacity and ensuring maximized efficiency from HVAC equipment.

- Seals cable penetrations with a 96% or greater effectiveness at the demanding static pressures required for high-density cooling as required by data centers
- Split design allows for easy installation around existing cables or re-cabling without removal
- Dresses raw metal edges in compliance with NFPA 75 to protect cables from cutting
- Compliant with Directive 2002/95/EC of the European Parliament and the Council on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)
- Proudly made in the United States

**Best For:** Effectively sealing cable openings at static pressures required for high-density cooling in raised floor environments.

Contact: (888) 982-7800 | www.upsite.com

## Upsite Technologies KoldLok Wave® Raised Floor Grommet



The KoldLok Wave is the newest innovation in sealing data centers and raised floor facilities. Its revolutionary patent-pending thermoplastic elastomer sealing technology provides a solid seal and conforms around cable penetrations more effectively than brush grommets. The KoldLok Wave offers the fastest ROI and the longest lifetime value.

- Thermoplastic elastomer material is flame rated UL94-HB
- Split design allows for easy installation around existing cables or re-cabling without removal
- Optional protective cover available for added safety when no cable is present
- Durable ABS frame and cover along with flexible sealing surface engineered to withstand long-term use
- Dresses raw metal edges in compliance with NFPA 75 to protect cables from cutting
- Compliant with Directive 2002/95/EC of the European Parliament and the Council on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)
- Proudly made in the United States

**Best For:** Sealing against wasted bypass airflow in data centers, dramatically improving efficiency and lowering the data center's overall carbon footprint.

Contact: (888) 982-7800 | www.upsite.com

#### Tate In-Floor Cooling Systems



Tate Access Floors designed three new in-floor cooling products for data centers: the DirectAire airflow panel, the SmartAire variable-air-volume damper, and the PowerAire fan-assist module. The DirectAire panel is designed to deliver airflow to server racks at an angle, which allows 93% of the airflow to enter the face of the rack. The DirectAire panel also eliminates bypass air to save on operating expense in new facilities. The SmartAire dampers give admins electronic control over the amount of air passing through an individual panel, which can help save on fan energy when servers are idle. PowerAire is designed to help in dense server racks and blades where a blast of cooling may be needed. PowerAire can be throttled up or down based on power requirements.

- DirectAire panels cool up to 28.5kW per rack and can support a design load of 2,000 pounds
- SmartAire dampers allow each panel and rack tandem to be thought of as an individual zone
- PowerAire modules are easy to install in retrofit applications or in new cooling systems
- Three options provide compelling return on investment

**Best For:** Data center environments that face the challenges of cooling a high-density, variable-load data center.

Contact: (800) 231-7788 | www.tateinc.com

#### Access Floor Systems



AccessFloorSystems.com offers everything you'll need for a data center floor, including raised floor panels and components, equipment supports, cable trays, trim materials, grommets, ESD carpet and floor, panel lifters, and antistatic mats. AccessFloorSystems.com has been around for more than 25 years, and it offers same-day shipping on most raised floors, components, and accessories.

- Raised floor systems are available for new and used Tate Bar Concore, Woodcore Panels, Tate All Steel Panels, Tate Concrete Panels, and Tate Aluminum Panels
- Replacement panels and components for new and legacy data centers
- Energy-saving solutions for raised floor penetrations and blanking panels
- High-velocity perforated floor tiles and grates to assist with cooling issues

**Best For:** Enterprises that are building or remodeling the data center floor and want a company that offers a large selection of products and solutions for legacy data centers.

Contact: (800) 868-8606 | www.accessfloorsystems.com

## ASM Modular Systems Raised Access Flooring System





Raised access flooring systems from ASM allow for easy reconfiguration via instant access to wiring and cabling. ASM's raised access floors include technology to address advances in electronic workflow and energy efficiency.

- Incorporates a solid brass positive grounding device in every panel
- Uses nickel chrome plating on critical parts for safety
- Uses a solid tube design that's better than conventional U-shape for high-strength stringers
- Green building elements
- High-pressure laminates available
- Vinyl plastic that's resistant to strong chemicals

**Best For:** IT administrators who require electrical grounding and want no zinc whiskers and high-strength stringers.

Contact: (866) 516-8531 | www.asmproducts.com

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

#### PDU Cables Air-Guard Cable Seal



Seal raised floor cable openings with the Air-Guard Cable Seal product line and realize an immediate cost savings in the data center. These products significantly minimize air loss and improve static pressure to cool data center equipment, which helps prevent expensive electrical equipment from overheating. Air-Guard is the only brushed floor grommet line to offer a dual-stage sealing system with the most effective seal in the data center, and the only one to provide a safety cover for increased safety and durability when cables are not going through the raised floor cut-out. For the highest-quality products in the data center marketplace and the most ease in sourcing your sealing solution, rely on PDU Cables.

- Dual-sealing systems provides an effective, economical means to eliminate bypass air through cable cut-outs
- Choose from products with overlapping brushes and/ or gasket material to seal your specific cut-out need
- Flexible and simple cable routing via removal of floor tiles without disconnecting equipment

**Best For:** The most effective cable opening seal in a raised floor data center environment.

Contact: (866) 631-4238 | www.pducables.com

#### Bergvik Flooring Modular Raised Floor



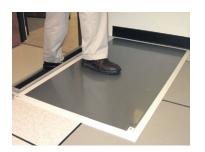
In the flooring business since 1970, Bergvik offers the strongest, most stable and modular raised floor available for data centers. Bergvik's engineering department supplies CAD drawings that are suited to your needs.

- The Iso Floor system offers custom panels as an option to fit your equipment depths and allows for optimization to build smaller and smarter rooms; floor heights from 12 to 94 inches
- River Cooling Airflow Panels with high-plume fins provide superior air stratification to cool upper servers when compared to flat bottom panels; the unique 36-x 24-foot panel also allows for more server racks
- Earthquake bracing frames will fit any raised floor and are tested to NEBS standards

**Best For:** Enterprises that are looking to lower energy costs by up to 40% and add more server racks in the same footprint, increasing their revenue stream.

Contact: (410) 548-1449 | www.bergvik.com

#### Sealco Tacky Mats



Sealco provides a variety of tacky mats to keep your computer or clean room free of contaminants. Each mat is composed of multiple-layer polyethylene film with a specially treated pressure-sensitive adhesive on one side, which catches the contaminants from shoes or equipment. When sheets gather contaminants, the top sheet can be peeled off to expose a new sheet. The sheets are designed to resist adhesive transfer, preventing sheet-to-sheet de-lamination. Ask about our free removable mat holders that allow easy placement and removal.

- · Variety of sizes and colors
- · Keeps contaminants away from computer equipment
- Optional company logo imprint
- Mat sheets individually removable and numbered
- Non-beveled edges ensure each sheet is free of contaminants

**Best For:** Entry ways into computer rooms or any area where dust/dirt can track into the computer room.

Contact: (972) 234-5567 | www.sealco.net

#### Critical Power Exchange Raised Access Flooring



Looking for raised access computer flooring or replacement panels for your existing flooring systems? Critical Power Exchange can help by providing both new and pre-owned options for your flooring needs.

We supply customers with the raised flooring systems they need promptly, and often at savings of 40-50% off new pricing.

Our inventory changes daily, so that whatever the size, we provide you with a turn-key solution for even the most complex raised flooring projects.

Also, our specialized teams of installers can conduct a facility walk-through and provide installation planning to assure safe and secure conditions at all times.

**Best For:** Companies looking for significant savings on new flooring panels or replacement flooring panels for an existing flooring system.

Contact: (877) 315-4176 | www.criticalpower.com

## TRIAD Virtual Cold Aisle Containment Panel



Triad promotes passive "River Cooling System" by replacing ineffective airflow panels in a very cost effective way. Triad's Cold Aisle containment panels utilizes a combination of Fluid Dynamics often associated with Foils (similar to airplane wings) and expansive turbulation of the air stream to present over 95% of the supplied air through the server unit. By using these innovative design combinations not previously seen in data center cooling infrastructure, the immediate effects of better Airflow Utilization Efficiency© (AUE) in Triad's passive River Cooling systems provide 8% to 40% reductions in data center energy bills.

**Best For:** Data center passive improved cooling while reducing energy consumption

Contact: (720) 530-8699 | www.triadfloors.com

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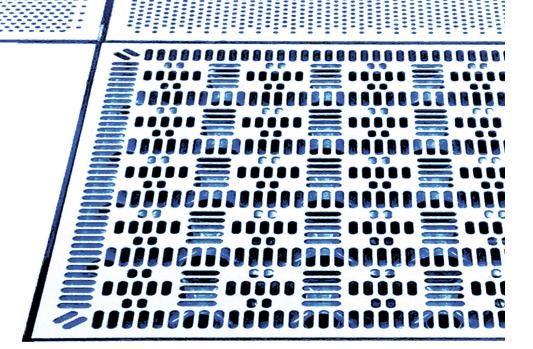
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#### BUYING TIPS:

# Data Center Flooring & Accessories



ONE WAY TO DRAMATICALLY cut data center cooling costs is to invest in raised flooring, because it can play an active role in the way you deliver cooling and manage the heat around your servers. Here, we'll identify a few key elements you'll need to think about before you purchase data center flooring and accessories.

**Space.** "If your data center was built 15 to 20 years ago, it may have been built on a floor that's shallower than what's required today," says Scott Jacobitti, national sales manager for Snake Tray (www.snaketray.com). Most new raised floor construction requires a minimum of 24 to 36 inches, which is primarily to provide airflow under the floor

and cool the electronics in the data center. If you don't have the space available, you may need to redesign the data center flooring to properly handle the heat from your servers.

"In either situation, it's important to plan your under-floor power cabling layout precisely, establishing designated cable pathways," says Ken Koty, sales engineer at PDU Cables (www.pducables.com). "Making sure you purchase your power cables to the proper length will help to limit congestion and minimize air dams that can lead to cooling inefficiencies."

**Power requirements.** In most cases, power circuits will not change over the lifetime of the data center. If you're moving or plan on moving in the near future to a denser server layout, you'll want to build in the power to handle it. "Maintaining that energy means that you'll need to bring a tremendous amount of cabling under the floor," Jacobitti adds. You'll need a tray that allows for air movement to go through the tray, rather than blocking the air and creating a hot spot.

Cables to cabinets. There are going to have to be some cutouts in the floor for your cables, and you'll want to seal around the cable cutouts to keep your data center cooling efficient. By installing a grommet with a filler material, you can still have the flexibility to easily access cables without reducing the data center's cooling efficiency.

"In data center floors where cable cut-outs have been made but equipment hasn't been installed and cables haven't been run, having grommets with safety covers in place provides a solid surface for increased durability, safety, and a finished look to the floor," Koty says.

Surface. "You definitely want a nonreactive surface, because you're dealing with a lot of expensive electronic equipment that's susceptible to ground faults and shorts," Jacobitti says. Flooring options are available that are static-resistant; keep in mind that the floor will need to prevent static against a variety of footwear and humidity conditions. Flooring with a traceable ground path is best because it can migrate the electrostatic discharge away from the electrical equipment.

Weight. Make sure that all areas of the data center raised floor are capable of handling server weight and traffic. "The data center is a dynamic space, and your organization will be moving things in and around the floor, so the entire structure needs to be sound," Jacobitti says.

#### BUYERS' CHECKLIST

- ✓ Will you need a new build-out to meet the space necessary for airflow and cable management?
- ✓ Do you currently have enough power to provide energy for all the servers, and will there be room for expansion in the future?
- ✓ Do you have cable grommets that will prevent the data center's cool air from leaking through raised floor areas where the cables run to the cabinet?
- ✓ Does your data center need an antistatic floor?
- ✓ Are all sections of the data center flooring capable of handling the weight and traffic to which they will be subjected?

#### **KEY TERMS**

#### Base.

The piece that's attached to the deck by a mastic or mechanical fastener; its height will determine how high the finished floor will be.

#### Head.

Inserts into the base and includes holes to fasten panels or stringers, and there's usually a leveling to let you make fine adjustments to the floor height.

#### **Panel**

The material that makes up the walking surface of a raised floor. Depending on your weight and traffic needs, the panel may be made from steel, concrete with steel reinforcing bars, or aluminum. The interior may be filled with a lightweight material to give you the ability to easily move panels.

#### Stringer.

A metal channel or square tube that's attached to the pedestal head that forms a grid and provides lateral stability. May either be snapped into place or fastened from the top with a screw.



## FirstTech®. Safeguarding Your Data Center



Anyone who's ever had to use a regular floor-lifter tool will appreciate the convenience of the E-Z Lift. Simply drop the E-Z Lift floor lifter tool with its 5-inch dual suction cups on the appropriate tile, tilt the tool towards you, and pull. It's just that easy.

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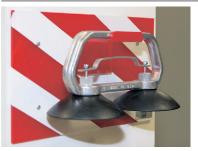


Custom fit protective covers are designed to protect power sources, EPOs, and a variety of other needs. Made from durable acrylic and designed with hinges to open and close. Call for pricing.



Hurricane Airflow Panel systems are ideal for data center, server farm, and hot spot cooling. This High Density Airflow Panel delivers up to three times more CFM than industry-standard perforated airflow panels. A patented Fit-All design will fit into most existing raised access floor systems, providing a flexible and low maintenance raised access floor system.

#### \$236



A floor puller is a must have in any data room with a raised access floor. This 5-inch double-cup puller has a strong metal handle and suction cups with incredible strength. The Floor Lift-A-Bracket is designed to call attention to itself, making it easy to find when you need a floor-lifter tool.

\$33 (Floor Puller Only)
\$62.95 (Puller with Bracket)



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Fire protection is an important consideration for data center managers. Simplex has worked hard to develop a fire-rated material that fills your needs. Our goal is to set the standards for hot aisle and cold aisle isolation.

- Developed to meet the stringent demands of data center fire protection.
- Meets ASTM E-84 Class 1 and NFPA 701 standards.
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#### SIX QUICK TIPS

## Incorporate Tablets Into The Enterprise

#### Make Sure You Have A Strong Business Case For Tablets

THE CONSIDERATIONS INVOLVED with procuring tablets for enterprise deployment are numerous. Beyond network, data security, application, cost, support, and platform issues to mull, IT must consider if there's even a strong business case to make for tablets in terms of whether employees will benefit from having them. As Christian Kane, Forrester Research analyst, says, "Enterprises shouldn't just get tablets to get tablets; they should be adopting them for specific employees who will benefit from them."

#### ✓ Pick A Platform

Andrew Borg, research director for Enterprise Communications at Aberdeen Group, says that, for enterprises, the iPad has emerged as the reference tablet standard due in part to its manageability and its unified hardware platform. Particularly for small IT departments, he says, the fracturing of the Android platform can prove problematic, whether they're procuring tablets themselves or operating under a BYOD model.

Still, Android can be preferable in some situations, he says, though primarily for organizations obtaining and managing all tablets themselves. In that case, fracturing is less of an issue because SMEs can go with one vendor and have one support line while controlling applications and, perhaps more importantly, the Android OS version running on the tablet. The minute that employee-owned Android tablets are added to the mix, he says, the platform's appropriateness for SMEs "goes way down, rapidly," due to the potential of IT having to handle various OS versions and the lack of a consistent approach to malware, security, and data-loss prevention for the platform. "The complexity begins to multiply quickly on the Android platform," Borg says. "Whereas on the iPad there's one size, one current OS, one vendor, and the tools provided to enterprises to manage and deploy are well-proven and capable

#### ✓ Seek Employee Input

Obtaining employee input is imperative when weighing tablet choices. The best approach, Kane says, is asking employees about their preferences, how they work, and which tools they need to do their jobs. "The goal is to improve productivity and efficiency and help people get their jobs done," he says. He adds that employees generally want to provide input concerning issues they're experiencing and how to improve them. "Ultimately, one side shouldn't dictate everything; it really should be a decision that's made with influence from both parties, and understanding the behaviors and the needs of both sides is the best way to do this."

Borg says acquiring end-user input is important. Ultimately, he says, usability and end-user experience define a program's success. Acquiring end-user input on tablets and smartphones presents different challenges than input on laptops for small IT departments, however, as obtaining input for laptops really isn't necessary because laptops are essentially movable desktop systems that have become highly standardized over time where OS, platform, and core business productivity applications are concerned. Unlike with tablets, "it isn't about personalization, what apps you've loaded, how cool or sexy it is to carry around, or really about battery life," he says. In terms of mobile usage, he says, tablets are "much more like a smartphone than a

## ✓ Are Applications Available For What You Need?

A top consideration when deciding if incorporating tablets makes sense, says Forrester Research's Christian Kane, is determining if applications are available to accomplish desired tasks. "If you have an idea of who will use them and what they will use them for, you'll know if there are available applications," he says. "In general, native apps are still developing, but there are plenty of them already out, and Web apps are something that allows you to care less about the platform on the device, which is nice."

#### ✓ No Silver Bullet

Forrester Research's Christian Kane warns that "tablets won't be the silver bullet to solving all mobility problems. They will be right for some employees and wrong for others." Thus, he advises to begin deployment with pilot programs and understand that "the platforms themselves are still very immature." "Deliver what you can today given the immature technology, security and management requirements, and the status of current hardware/software lifecycles and then expand as you can," he says.

#### **BONUS TIPS:**

#### ✓ Beware of hidden costs.

Beyond financial costs related to procuring tablets, there are other costs to consider, as well. Rob Enderle, Enderle Group principal analyst, says these can include tablets becoming a distraction, hosting viruses, and representing a theft risk. Further, he says, "users like to show them off," thus increasing the chances of others acquiring company data.

#### ✓ Consider enterprise mobility management.

Particularly for small, overworked IT departments, Aberdeen Group's Andrew Borg says a fully integrated enterprise mobility management solution that oversees management of the tablet and data on it is a good fit. "There's a whole variety of pricing models and capability sets that really can meet almost any need," he says. Options include flavors of cloud-based, on-premises, and hybrid solutions and evergreen and per-seat licensing arrangements.

laptop." As a result, usability, app usage, battery life, and end user experience are more important and play a bigger role in a deployment's success.

#### ✓ Everyone Needs A Strategy

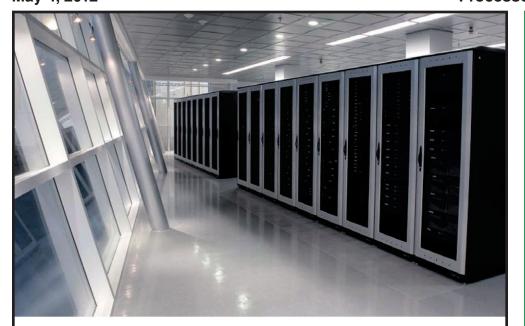
Borg believes every SME should have a well-established, enforceable mobile-device policy in place, whether or not the business plans to deploy tablets. To illustrate why, he cites recent data from a separate firm proclaiming that the total number of tablets in the United States nearly doubled during a one-month period at 2011's end. "Having a strong enforcement policy prohibiting BYOD on tablets is one way to keep the Barbarians at the gate, if you will." Without such a policy, he says, "trust me, there will be employee-owned tablets trying to access corporate-owned email right now."

For example, he says, even if employees bringing tablets to work don't intend to use them for work purposes, every tablet entering the enterprise is "pinging for a Wi-Fi connection without the user requesting that capability. The default is 'connect to available Wi-Fi,'" he says. "I'm not saying they will be successful, but I am saying whether IT wants it or not, there are already devices trying to access the network."

#### **✓** Shore Up Security

Mobile platforms generally still leave much to be desired in terms of application control, says Kane. Add in cloud-connected applications and there's potential for data leaks. "Virtualization can help with certain applications, but a lot of security practices are going to have to include user education. Users need to know not to put sensitive material in places the company can't control," he says. Advising employees about proper application usage can help, he says, but in general, potential data leaks are "why so many firms are limiting initial access to contacts, calendar, and email and maybe virtualized apps."

Borg says the first step to addressing mobile security is developing a comprehensive MDM (mobile device management) strategy that incorporates tablets, smartphones, and cell phones, and that clearly delineates which devices will and won't be permitted access to corporate email, email attachments, software applications, malware protection, and other corporate assets. Whereas it's possible IT hasn't revisited the enterprise's laptop usage policy in years ("if they even have one in place"), he says, IT "cannot afford to be complacent with mobile devices." Here, a more comprehensive EMM (enterprise mobility management) solution vs. a pure MDM solution is appropriate, he says. "If you stop at MDM, you stop at the easy part," he says, as you're "overlooking the biggest risks to enterprise assets, because it's not about controlling the device ultimately- it's about controlling the data on the device."





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# SIX QUICK TIPS

# Improve Network Performance

Increase Speed & Improve Reliability To Meet The Needs Of Employees & Customers

THE EFFECTS OF network performance can be felt by multiple parties both inside and outside of a company. When everything is running smoothly, employees can get their jobs done and customers can access Webbased services, buy products, or receive customer support without trouble. But if your network isn't performing as well as it should be, it could upset the flow for both your workforce and your customer base.

"The effects can range from simple loss of productivity for employees as they wait for applications to respond to the need to invest in additional network capacity to maintain baseline performance," says Patrick Bedwell, vice president of product marketing at Fortinet (www.fortinet.com). "Significant loss of business can occur as customers abandon a site or partners stop conducting business due to unacceptable performance."

Luckily, in most cases, there are relatively easy fixes that will help you improve your network performance without needing to make large-scale investments in new equipment and technology. Here are a few tips that will help put you on your way to improving your network.

### ✓ Evaluate Your Network Performance

If you think your network may be in need of a performance boost, then you should start by evaluating your network as a whole. There may be telltale signs, such as underperforming applications or spotty Internet connections, but some may require more research. "The first step will be to see your baseline network performance, and you'll need to run a test," Bedwell says. "Fortunately, there are many open-source tools for checking network performance, as network performance has been a concern to administrators for years."

Bedwell recommends taking advantage of network management and testing tools.

# ✓ Determine If It's Time For An Overhaul

In some cases, you may listen to your workforce and customers or perform a network performance test and realize that making improvement to the existing network may not be possible.

Patrick Bedwell, vice president of product marketing at Fortinet (www.fortinet.com), highlights a few issues that could signal the need for a complete network overhaul:

- Consistent performance bottlenecks at legacy networking devices like routers and switches, regardless of the volume of traffic on the network
- Dropped packets requiring retransmission between systems
- Repeated connection time-outs when requesting data from servers
- Numerous attempts required to complete file transfers

# ✓ Listen To Your Workforce

Before you run an in-depth network performance test, you should ask your workforce and even customers about their experience when using the Internet and Web-based solutions. This information can help you decide whether there is a real need for a boost in performance. If specific applications aren't running well on the network, then regular users will let you know.

"It is easy to know when a company is not getting the desired results because users will complain about application performance," says Keith Morris, vice president of marketing at Talari Networks (www.talari.com). "For applications like VoIP, garbled speech or dropped calls cause frustration; interactive Web-based applications can become unresponsive, thereby sapping productivity; and bulk transfers, like backups, may not be able to complete within the required period of time."

He says that many network management products will also help you estimate what your performance should be, so you'll have a baseline of where you are currently as well as an ideal level to reach.

# ✓ Increase Control Of Apps & Users On The Network

Some of the biggest culprits that may be affecting your network are applications. These apps may be company-supported,

such as email clients and customer management systems, or external, bandwidth-intensive applications, such as YouTube or music-streaming sites. And although it can be difficult to keep track of which software, services, or apps are using the most resources, you should put some sort of application management and control system in place that lets you allow or block access as much as possible.

"One of the simplest and most powerful ways to boost network performance today is to control application traffic," Bedwell says. "Apps are often the largest bandwidth hogs, as popular applications such as iTunes or YouTube can consume an enormous amount of your bandwidth. Find out what applications are running on your network and who is running them, and use application control technology to reduce bandwidth consumption."

# ✓ Take Advantage Of WAN Virtualization Solutions

If you can pinpoint your network performance issues down specifically to applications, then you may be able to take advantage of WAN optimization. These solutions let you "enable some applications that were designed for the LAN to run acceptably over the WAN," which can free up crucial bandwidth "through compression and data deduplication," according to Keith Morris, vice president of marketing at Talari Networks (www.talari.com).

But for some companies, WAN optimization may not be worth its often expensive price tag. As a replacement or complementary solution, Morris recommends using WAN virtualization, which is best-suited for companies that need to increase

bandwidth and improve network reliability at a much lower cost than optimization.

"On average, WAN optimization customers experience a two- to four-times improvement in terms of bandwidth consumed; however, they generally need expensive private WAN connections to work effectively," Morris says. "By enabling the use of inexpensive Internet bandwidth without sacrificing business quality in the network performance and reliability, WAN virtualization typically delivers 30 to 100 times the bandwidth per dollar for all applications."

### ✓ Use All Company Networks Efficiently

Some companies have multiple networks within their company. They may be separated based on department or purpose and some of them are completely unused, which could potentially be a waste of available resources. "One way is to look at what you have and find a way to expand its uses," Morris says. "For example, many companies have Internet standing idle as a back-up link for disaster recovery. This backup Internet, when combined with existing public and/or private WAN bandwidth, can be aggregated into a virtual network for better overall network performance."

However, if your company only uses one network for the entire workforce, then it may be time to deploy more. For instance, a sales department could use its own network for email and VoIP systems, while an IT department could use a higher-speed network for servers and other more intense purposes. With this approach, both networks would have their own performance expectations that wouldn't be affected by users outside of the department.

# **BONUS TIPS:**

# ✓ Is it an application problem?

According to Keith Morris, vice president of marketing at Talari Networks (www.talari.com), when you are evaluating your network, you should also check your application performance to ensure that the issue employees or customers are facing doesn't lead to one app. If an app works well most of the time, then you may only need to dedicate more bandwidth. But if an application never works well or multiple applications have issues, then it could be a problem with the network.

# ✓ Is it a network problem?

If you determine that a specific application isn't the problem, then it may be a sign that something is wrong with the network as a whole, Morris says. That could also be the issue if your company goes from seeing isolated network problems on certain applications with specific users to having more varied issues across lots of different users and applications.



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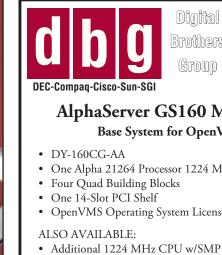
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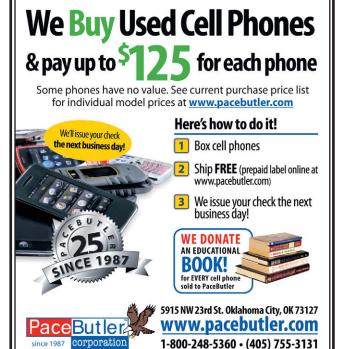
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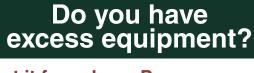


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# HOW TO

# Work The Cloud Into Your Backup Plan

# Redundancy, Reduced IT Workloads Are Primary Benefits

THERE'S A LOT TO GAIN from backing data up to the cloud, including benefits tied to redundancy and reducing IT workloads. There are also numerous considerations to weigh, including cost. "Cloud backup is not free," says Jason Buffington, Enterprise Strategy Group data protection analyst. "A lot of SMBs, when they see the cost of cloud-based backup, get sticker shock." Enterprises should remember, however, they're not just gaining storage but management of that storage, he says. "You need to think of value and not price," he says.

### **State Of Providers**

Cloud storage has come a long way in recent years, says Megan Wohlford,

Rackspace product manager (www.rackspace.com), with successful providers now offering "solid SLAs, some going all the way up to 11 nines." Providers are also investing in security, she says, uploading data over SSL and providing authentication tokens that reset as frequently as hourly. In addition, some providers are even encrypting data at rest. "Big players are enjoying economies of scale and driving their costs down. Due to the competitive nature of the market, these cost savings are almost instantly passed on to the customer," she says.

Support, however, can still be an issue. Some early providers that designed their models for developers who essentially only required documentation and forums for support are only now adding live support, she says. SMEs that need assistance with cloud storage, she says, should look at "companies with long reputations of supporting customers." Buffington says better cloud providers offer the same quality of training and support as onpremises backup providers. Thus, enterprises should have high expectations where experience of deployment, skills, and knowledge building are concerned.

Victor Dermott, Logicalis solutions architect, cloud computing (www.logicalis.com), says many providers have "become experienced, sophisticated solution providers." Some have integrated their services with the backup/ archival software providers' products, he says, so "you can have a

fully automated backup and archival process integrated with your current software."

# **Who Can Benefit?**

While backup is good business practice for everyone, Wohlford says, cloud backup is well-suited for businesses with such large data amounts that "they're being forced to manage an infrastructure to manage that load." The cloud offers a means to offset raw storage resources and staff required to maintain that storage, she says. The cloud is also well-suited

for businesses with varied data. Thus, though organizations may deem some data too sensitive for cloud storage, it probably has double the amount that isn't sensitive, she says. Here, a provider that allows SMEs to segment data for onsite and cloud storage could be a good option. "The key is that businesses can customize their cloud backup solution; it doesn't need to be all or nothing," she says.

SMEs in general are good cloud-backup candidates, Dermott says, because they can acquire/consume storage with terms and at costs previously only available to larger organizations and now deliver a level of functionality, security, and availability not previously possible, he says. For example, Dermott says, "I can keep two copies of critical data in the

won't touch much. Companies with a seven-year retention policy, for example, won't likely need to access data two or more years old. "Storing data that isn't accessed much offsite is smart because it allows you to keep a lean infrastructure onsite and store older data inexpensively," she says. Some providers, she says, will allow setting policies that help automate how long data is kept onsite vs. when it is pushed to the cloud.

Overall, backing data up to the cloud is easy, says Buffington, "it's the restore that you need to pay attention to." The trick is determining "how quickly can I get it all back?," he says. Restoring a few files is simple, he says, but if you lose a server, "that's a whole bunch of data to pull back across the

# Key Points

- Cloud-based providers are now providing solid SLAs, better security, and competitive pricing.
- Moving data to the cloud can reduce IT data-management responsibilities.
- SMEs should address potential bandwidth and network issues before committing to cloud backup.

wire; it doesn't matter how fast your wire is, that's going to take you some time."

For SMEs, Buffington says, one ideal backup/recovery model is having a local IT integrator that doubles as offsite backup provider. "When you lose a server, the first person you'll call is the guy who is going to bring you that new hardware. Wouldn't it be great if they already have an offsite copy of your data, so they could just bring that with them when they're bringing that new gear out?," he says. Currently, he says, there are backup providers that "only sell their backup service through the channel through service providers, and in many cases those service providers are also a local integrator."

# **Action Plan**

- Assess your current data and backup situations
- Determine which data you can move to the cloud
- Determine access and permission levels required
- Decide if network and bandwidth upgrades are required
- Research possible providers
- Detail exact requirements to each candidate
- Note any regulations you must adhere to
- Review providers' suggestions for solutions
- Estimate total costs and growth
- Pitch a solution and costs to management
- Consider a proof of concept or trial implementation
- Create a back-out strategy if the provider doesn't work out

cloud, it can be available (securely) to my manufacturing organization in the Far East, and they can update a copy for me without any intervention by my staff."

# **Data Types To Move**

Data that is well-suited for tape backup is often well-suited for cloud backup. Dermott says, "The cloud offers a similar cost-savings opportunity without the administrative and physical shortcomings of tape." Wohlford says the cloud is perfect for data that SMEs

# **Get Started**

To initiate a cloud-based backup move,
Megan Wohlford, Rackspace product
manager (www.rackspace.com), advises
creating a migration plan. Actual migration, she
says, "will require a full-time staff member to oversee and
organize." Victor Dermott, Logicalis solutions architect,
cloud computing (www.logicalis.com), says SMEs need
someone who's responsible for cloud storage administration, understands the organization's data requirements
and usage, and can develop and communicate plans for
meeting requirements.

# **Top Tips**

- ✔ Better manage your assets. Victor Dermott, Logicalis solutions architect, cloud computing (www.logicalis.com), says that after a cloud-data move, SMEs have an opportunity to change how they manage those assets. "Storage usage should become more policy-based and less of a concern about budget cycles," he says. "Storage can be a monthly operating cost, not a capital expense. Policies can be driven by legal requirements and/or business requirements."
- ✓ Account for bandwidth. Bandwidth is something all SMEs should consider before committing to cloud backup. For example, says Enterprise Strategy Group's Jason Buffington, "if your WAN connection was already relatively busy, adding backup as a service will break it. You're going to start pushing a whole lot more data across your wire than you used to." Some cloud providers, he says, provide options tied to telecos so it's all part of one bill.
- ✓ Room to grow. Megan Wohlford, Rackspace product manager (www.rack space.com), cautions that SMEs that plan to eventually move a lot of data to the cloud should eye providers that can grow with them. Ask if the provider limits how much data you can store and the requests you make at a time. Providers may not share the exact space their data centers have, she says, but be open about your growth needs. "The last thing you want is to have 100TB with a provider and then have to figure out how to migrate that data elsewhere," she says.



# SIX QUICK TIPS

# Improve VoIP Quality Of Service

# Address Network, Traffic Prioritization & Other Issues

KEEPING THE QUALITY of the service of your VoIP implementation in mind from the outset is critical for numerous reasons. Chief among these, says James McCloskey, Info-Tech Research senior research analyst, is "we've had so much success and become so accustomed to the high quality and high availability of the traditional publicly switched telephone network that any decrease in quality [with VoIP] is a recipe for having your users be unhappy, no matter what you do after the fact." To help ensure and maintain VoIP QoS, consider the following tips.

# ✓ Bulk Up On Bandwidth

According to Joe Habib, director of global services at WildPackets (www.wild packets.com), at the highest level, "QoS should be built into the overall network design strategy." Although enterprises can save time and money by investing in intelligent, cost-effective VoIP routers and switches that have configuration tools to shape and tune traffic according to its sensitivity, Habib says enterprises must ensure that the number of concurrent calls doesn't exceed the allocated bandwidth for VoIP.

McCloskey says sufficient bandwidth generally isn't an issue at individual LAN segments or end points but rather at the network's core, where the simultaneous handling of multiple call streams and other real-time and non-real-time traffic occurs. "That's where you're going to have to put the focus," he says. "If you don't ensure that sufficient bandwidth, it's going to be almost impossible to provide a good-quality experience." McCloskey says enterprises can encounter contention with bandwidth and QoS during periods when users are likely to engage in personal Web surfing and downloading, such as lunchtime. "This is where it becomes critical that voice traffic gets prioritized first so that personal downloads and browsing don't affect negatively the voice experience, which relies on the real-time delivery of packets."

# ✔ Prioritize Traffic

Where prioritizing traffic is concerned, Rob Arnold, Frost & Sullivan senior industry analyst for Unified Communications and Collaboration, says to prioritize bandwidth resources for high-value or mission-critical applications, users, and locations. Granting VoIP traffic priority over email, streaming video, and other applications and ensuring service for the sales department, for example, can "minimize disruptions during peak periods of bandwidth demand on the network," he says. Mike Johnson, director of communications and collaboration at Logicalis (www .us.logicalis.com), says careful planning with skilled technicians "is the only way the policies will have their desired effect. Knowing what traffic is mission-critical in addition to VoIP is a key to success, as well."

McCloskey says to look to VLAN tagging and true QoS to ensure that real-time packets are delivered and prioritized. In addition to traffic prioritization, Habib advises implementing application class-of-service to ensure end-to-end VoIP delivery in the

event of traffic delays. "Delay, jitter, and packet loss has a great impact on VoIP QoS, but once detected in real time with a packet analyzer and a data-capture tool, an SME

will have the visibility to identify packet prioritization, as well as various applications' impact on the network, and then reshape the traffic accordingly," he says.

# Smartest Tip:

# ✓ Work Closely With Vendors

When prospecting VoIP vendors, Frost & Sullivan analyst Rob Arnold says to request demonstrations in live environments. Mike Johnson, director of communications and collaboration at Logicalis (www.us.logicalis.com), advises the SME's internal network staff to work with vendors and conduct regular audits to gather internal and external input and data to verify that existing QoS policies are "matching the traffic and that it's documented." Nick Mueller, video technical architect at CDW (www.cdw.com), says selecting a VoIP vendor with considerable integration guidance and documentation with your route-switch vendor can greatly help in implementing and maintaining correct QoS on your LAN and WAN.

# ✓ Best Cost-Related Tip

Frost & Sullivan analyst Rob Arnold says whether you're rolling out a VoIP the first time or expanding an existing deployment, "first and foremost, conduct an extensive network readiness assessment prior to implementing VoIP." This will detail the network's capacity, which existing network components can support packetized voice, and which components need upgraded or replaced. "These expenses, therefore, can be factored in to the overall cost of deploying VoIP applications," he says.

# **BONUS TIPS:**

# ✓ Communicate.

Info-Tech Research analyst James McCloskey says that before traditional telephony began shifting to IP-based telephony, companies typically had separate telephony and network groups to deal with specific telephony issues. "Today, organizations need to make sure they're delivering the VoIP service as a network service," he says. Thus, the groups must conduct "a lot of cross communication . . . otherwise, you end up with a lot of finger pointing."

# ✓ Check your link.

Where network bandwidth is concerned, Nick Mueller, video technical architect at CDW (www.cdw.com), says the rule of thumb, especially for lower-speed WANs (1.5 to 5Mbps), is reserving no more than 30 to 40% of link bandwidth for real-time traffic (voice media, for example). If the peak number of calls overruns 30 to 40% of link speed (512Kbps of a 1.5Mbps link, for example), increase link speed vs. increasing the percentage allocated to real time. "Using a lower-bandwidth code (G.729, for example) may increase the number of calls your link can sustain, albeit at a slightly reduced call quality," he says.

# ✓ Monitor Yourself

If the SME can only place its efforts on one thing, McCloskey says, it should be to at least make sure that call-quality logging is in place on its system. Without call and network performance logging, he says, SMEs have no hope of diagnosing problems as they crop up. Thus, even if you can't allocate resources toward VLAN tagging, he says, at least be capturing the data that would be necessary "so that if and when the problem crops up, now you can start to diagnose it and focus your efforts in hindsight, if you will," he says.

Arnold says SMEs can work quality-ofexperience and MOS (mean opinion score) measurements into their QoS parameters. Although subjective, the measurements present the users' perspective on application performance, he says, thereby providing IT and other technical service staff feedback in a live environment. Relatedly, Habib says to ensure that per-call static data records that report MOS and R-factor are at satisfactory levels. "MOS and R-factor are two measurements that factor into data delays, packet loss, jitter, and other indicators to provide quality-of-service statistics," he says. The best way to achieve satisfactory real-time (MOS, R-factor, and bandwidth utilization) results, Habib says, is using a packet analyzer that can capture all data traversing the network and present it in a meaningful way to help tune the VoIP design according to the analysis.

For SMEs with a network management system in place, Nick Mueller, video technical architect at CDW (www.cdw.com), says to "put your QoS into monitoring, especially WAN QoS. This will give you a good idea of both usage trends and drops." With Cisco routers, he says, IT can further enhance monitoring with IP SLA probes to keep carriers honest.

# ✓ Run A Pilot Program

Rather than roll out one big VoIP implementation enterprise-wide, McCloskey advises to first use a smaller, contained pilot group that implements all management and monitoring procedures. Beyond providing a good baseline to build out from, this will "build a comfort level with the system so there aren't big surprises when the big load goes up," he says.

The pilot, McCloskey says, should be an end-to-end implementation but avoid involving mission-critical users of telecom who can't afford an outage. Instead, use group members who can effectively communicate via email or IM if an outage occurs. Overall, "look at the pilot not as 'Where am I going to get my biggest bang?' but 'Where can I get the greatest opportunity to prove out my internal processes?"" he says. Further, the pilot should position the enterprise so it's not playing catch-up with the management and monitoring, he says. If you are playing catch-up and "you've gone with a big bang implement of the VoIP but you don't have those tools in place, you're really going to have a hard time maintaining

the operations and improving the quality at the same time," he says.

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May 17, 5:30 to 8 p.m. Crowne Plaza Ravinia 4355 Ashford Dunwoody Road Atlanta, Ga. www.aitpatlanta.org

# AITP Akron

May 22 Akron, Ohio www.akron-aitp.org

### Exchange 2010

May 22, 10 a.m. to noon
New Horizons South Dakota
4610 Technopolis Drive
Suite 100
Sioux Falls, S.D.
register.nhcomputerlearning.com
/Events/

# SpecTECHular 2012

May 22
New Horizons Colorado
10303 E. Dry Creek Road
Suite 100
Englewood, Colo.
register.nhcomputerlearning.com
/Events/

### ISSA Baltimore

May 23
Sparta Inc.
7110 Samuel Morse Drive
2nd Floor
Columbia, Md.
www.issa-balt.org

# **JUNE**

# SpecTECHular 2012

June 7
New Horizons Dallas
150 W. John Carpenter Freeway
Suite 100
Irving, Texas
register.nhcomputerlearning.com
/Events/

### AITP Pittsburgh

June 11, 5 to 8 p.m.
Silvioni's Restaurant
2125 Babcock Blvd.
Pittsburgh, Pa.
www.aitp-pgh.org

# AITP

Washington, D.C.
June 14
Alfio's La Trattorio Restaurant
4515 Willard Ave.

Chevy Chase, Md. www.aitpdc.org

# SpecTECHular 2012

June 16

New Horizons Cincinnati 10653 Techwoods Circle Cincinnati, Ohio register.nhcomputerlearning.com /Events/

# Organization In Outlook Made Simple

June 19, 10 to 11 a.m.

New Horizons South Dakota
4610 Technopolis Drive, Suite 100
Sioux Falls, S.D.
register.nhcomputerlearning.com
/Events/

# AITP Atlanta

June 21, 5:30 to 8 p.m.
Crowne Plaza Ravinia
4355 Ashford Dunwoody Road
Atlanta, Ga.
www.aitpatlanta.org

# AITP Akron

June 26 Akron, Ohio www.akron-aitp.org

# **ISSA Baltimore**

June 27 Sparta Inc. 7110 Samuel Morse Drive, 2nd Floor Columbia, Md. www.issa-balt.org

### SpecTECHular 2012

June 28
New Horizons Dayton
1890 Commerce Center
Fairborn, Ohio
register.nhcomputerlearning.com
/Events/

# **JULY**

## **AITP Pittsburgh**

July 9, 5 to 8 p.m. Silvioni's Restaurant 2125 Babcock Blvd. Pittsburgh, Pa. www.aitp-pgh.org

# AITP Washington, D.C.

July 12

Alfio's La Trattorio Restaurant 4515 Willard Ave. Chevy Chase, Md. www.aitpdc.org

# SpecTECHular 2012

July 17
New Horizons Fort Worth
4100 International Plaza
Suite 200
Fort Worth, Texas
register.nhcomputerlearning.com
/Events/

# SpecTECHular 2012

July 24
New Horizons San Antonio
2727 NW Loop 410
Suite 103
San Antonio, Texas
register.nhcomputerlearning.com
/Events/

# SQL Coding Best Practices and Shortcuts

July 24, 9 to 11 a.m.

New Horizons South Dakota
4610 Technopolis Drive
Suite 100
Sioux Falls, S.D.
register.nhcomputerlearning.com
/Events/

# Upcoming IT Events

# PROCESSOR.

### ISSA Baltimore

July 25 Sparta Inc. 7110 Samuel Morse Drive 2nd Floor Columbia, Md. www.issa-balt.org

# SPTechCon

July 25 Boston, Mass. www.sptechcon.com

# **AUGUST**

# AITP Washington, D.C.

Aug. 9 Alfio's La Trattorio Restaurant 4515 Willard Ave. Chevy Chase, Md. www.aitpdc.org

# SpecTECHular 2012

Aug. 9
New Horizons
Kansas City
9611 E. Metcalf Ave.
Overland Park, Kansas
register.nhcomputerlearning.com
/Events/

### AITP Pittsburgh

Aug. 13, 5 to 8 p.m. Silvioni's Restaurant 2125 Babcock Blvd. Pittsburgh, Pa. www.aitp-pgh.org

# SpecTECHular 2012

Aug. 21
New Horizons
Oklahoma City
3010 NW 149th St.
Oklahoma City, Okla.
register.nhcomputerlearning.com
/Events/

### ISSA Baltimore

Aug. 22
Sparta Inc.
7110 Samuel Morse Drive
2nd Floor
Columbia, Md.
www.issa-balt.org

### SpecTECHular 2012

Aug. 28
New Horizons South Dakota
4610 Technopolis Drive, Suite 100
Sioux Falls, S.D.
register.nhcomputerlearning.com
/Events/

# **SEPTEMBER**

### **AITP Pittsburgh**

Sept. 10, 5 to 8 p.m. Silvioni's Restaurant 2125 Babcock Blvd. Pittsburgh, Pa. www.aitp-pgh.org

# AITP Washington, D.C.

Sept. 13

Alfio's La Trattorio Restaurant 4515 Willard Ave. Chevy Chase, Md. www.aitpdc.org

# ISSA Baltimore

Sept. 19
Sparta Inc.
7110 Samuel Morse Drive
2nd Floor
Columbia, Md.
www.issa-balt.org

# AITP Akron

AITP Akron Sept. 25 Akron, Ohio www.akron-aitp.org

# Data Center World

Sept. 30-Oct. 3
Gaylord Opryland, Nashville, Tenn.
www.afcom.com

# **OCTOBER**

### **Interop New York**

Oct. 1-5 Javits Convention Center New York, N.Y. www.interop.com

# AITP Pittsburgh

Oct. 8, 5 to 8 p.m. Silvioni's Restaurant 2125 Babcock Blvd. Pittsburgh, Pa. www.aitp-pgh.org

# AITP

### Washington, D.C.

Oct. 11

Alfio's La Trattorio Restaurant 4515 Willard Ave. Chevy Chase, Md. www.aitpdc.org

# ISSA Baltimore

Oct. 24
Sparta Inc.
7110 Samuel Morse Drive
2nd Floor
Columbia, Md.
www.issa-balt.org

# WPDevCon

Oct. 24 San Francisco, Calif. www.wpdevcon.net

# AITP Akron

Oct. 30 Akron, Ohio www.akron-aitp.org

# **NOVEMBER**

# AITP Washington, D.C.

Nov. 8 Alfio's La Trattorio Restaurant 4515 Willard Ave. Chevy Chase, Md. www.aitpdc.org

# **AITP Pittsburgh**

Nov. 12, 5 to 8 p.m. Silvioni's Restaurant 2125 Babcock Blvd. Pittsburgh, Pa. www.aitp-pgh.org

# ISSA

Baltimore Nov. 28

Sparta Inc.
7110 Samuel Morse Drive
2nd Floor
Columbia, Md.
www.issa-balt.org

# **DECEMBER**

# Android DevCon IV

**evCon IV** Dec. 7

San Francisco, Calif. www.andevcon.com

### AITP Pittsburgh

Dec. 10, 5 to 8 p.m. Silvioni's Restaurant 2125 Babcock Blvd. Pittsburgh, Pa. www.aitp-pgh.org

# AITP

Washington, D.C. Dec. 13

Alfio's La Trattorio Restaurant 4515 Willard Ave. Chevy Chase, Md. www.aitpdc.org

# ISSA

# **Baltimore**

Dec. 19
Sparta Inc.
7110 Samuel Morse Drive
2nd Floor
Columbia, Md.
www.issa-balt.org

Do you have an event you'd like to see listed? Send an email to feedback@processor.com.

# Tips For Buying Used & Refurbished Equipment

# Understand The Gray MarketWhat To Buy

The common definition of the gray market is "the sale of equipment through channels that aren't licensed or authorized by the original manufacturer," and it's both legal and legitimate. But how do you know who you can trust?

For organizations ready to get their feet wet in the gray market, Tim Farrow, senior vice president of operations at Apto Solutions (www .aptosolutions.com), recommends data communications equipment, PCs, and servers as good choices that usually avoid the licensing issues encumbering other items. "With servers, if companies are replacing or adding on to their existing infrastructure and can use enterprise-wide licensing, it's very cost-effective," Farrow says.

### Where Does Refurbished Equipment Come From?

Organizations should consider embracing the amount of high-quality used equipment currently available. Equipment that's coming off lease is a big source for used equipment that's on the market, says Phil Bettenburg, president of North American Systems International (www.nasi.com).

Data centers with leased equipment may swap out components—or entire production environments-when their lease periods are up. Once the equipment has been returned to the leasing company, a reseller is contacted to move the components to the secondary market. Post-lease equipment is typically one to three years old and is in very good condition. Items coming off an OEM lease may offer buyers some additional perks. "It comes with a guarantee that it's eligible to be put under contract at the next location," Bettenburg explains. "Most of the third-party or open-market resellers will do that. If it doesn't qualify under that contract, they'll take it back."

### **■** Go With An Established Reseller

There's no shortage of sources for used gear and refurbs, whether it's via company bankruptcies, liquidators, leasing companies disposing of hardware rotated out of service, and so on.

The gamble here, according to Tom Hansen, president of Elarasys Worldwide (www.elarasys.com), is that these sources may not thoroughly test the equipment, load it with the proper firmware, properly pack it for shipment, or be ready to furnish support if there's a problem.

"The only source of this level of service is a company that specializes in the secondary market," Hansen says.

In addition, transactions here can go both ways, something to consider if you have used equipment of your own to trade in. "[Reseller] firms are also best qualified to offer top dollar for the trade, given their knowledge of the secondary market," Hansen says.

### Always Follow Good Tape-Handling Procedures

Certified used tape can be used for the same applications as new tape, and it doesn't require any special handling procedures. However, you should treat it with the same care that you would treat new media.

Additionally, tape manufacturers and resellers generally recommend that you store tapes vertically and never take apart the cartridges or touch the media with your bare fingers. In addition, you should avoid dropping the tapes and keep them well away from magnetic devices, including monitors, speakers, electrical motors, and power supplies. You also shouldn't let your tapes get too cold or too hot, and when you move them from one place to another, you should wait 24 hours to let them

adjust to the climate conditions before mounting the tapes.

### Pay Attention To Part Numbers

Savvy buyers of used and refurbished equipment check part numbers ahead of time, because you don't want to receive equipment that's close to—but not exactly—what you thought you were getting.

"For example, aftermarket memory is often less expensive than memory that has an HP sticker on it," says Morris Scott, president of DMD Systems Recovery (www.dmdsystems .com). "This may not mean that the aftermarket memory is inferior, it may just mean that the customer didn't get what they paid for." Checking that components carry only original part numbers is a good way to know exactly what you're buying.

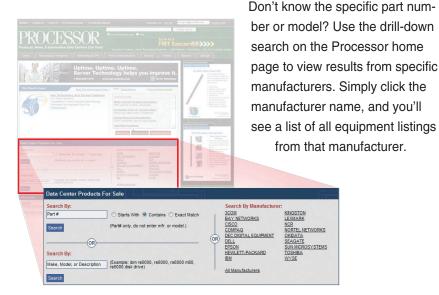
### Don't Recycle That Packaging

Before you assume it's safe to toss the original packing material, find out if you'll need to hold onto it until your warranty period expires. Some suppliers won't accept returns unless they're in the original packaging, while others are less picky. Customers should ask about the requirements when making their purchase so that a return isn't refused because someone inadvertently pitched the original box.

# USE PROCESSOR.COM TO FIND USED & REFURBISHED EQUIPMENT

Once you've made the decision to purchase used or refurbished equipment, finding the equipment you need is easy with Processor's online Data Center Products For Sale Database.

From Processor's home page (www.processor.com), you can search for a specific part number, make, model, or description. Enter the information in the appropriate box and click Search. You'll see a list of available equipment. If you don't see the particular piece you're looking for, scroll to the bottom of the search results page to conduct a more detailed search. There, you can search by part number, model, price, location, and more.



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Follow the on-screen directions from there!

# *Processor* Solutions Directory

Here are brief snapshots of several companies offering products designed for the data center and IT industry.

Listings are sorted by category, making it easy for you to find and compare companies offering the products and services you need.

You can find more detailed information on these companies and the products they offer inside this issue.

To list your company and products, call (800) 247-4880.

### PHYSICAL INFRASTRUCTURE



AmeriCool, Inc. is the official sales, marketing, and distribution company for Weltem Air Conditioning products in North America. Our AmeriCool portable air conditioners are built to the highest standards in the industry and offer unbeatable performance, reliability and value. With products ranging from 1 to 5 tons we offer air conditioning solutions to companies small and large. Due to the wide operating range of our product, 24/7 cooling capability and rugged design, our product is a great solution for mission critical needs and harsh industrial applications.

### **Products Sold:**

· Portable Air Conditioning Units

(800) 680-0725 I www.americoolinc.com

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- · Networking Patch Cords Telephone Line Cords
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# PHYSICAL INFRASTRUCTURE



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A variety of flooring and data center safeguard tools

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Staco Energy was founded in 1937 and is one of the longest-lasting innovators of power products and services in the world. Our recent innovations have created the foundation for entry into the SMB data center marketplace through pioneered design and expertise. We are committed to providing you with the best tailored power solutions for your needs.

### **Products Sold:**

A full line of UPS products, including our new FirstLine P 65 – 250kVA UPS, FirstLine PL 10 – 100kVA UPS, FirstLine BMS, and related accessories and services.

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# PHYSICAL INFRASTRUCTURE



Based in New York City, Hergo Ergonomic Support Systems is an independent designer and manufacturer of enclosure cabinet solutions, technical computer furniture, and modular racking systems. The company's products are designed to promote organization in the workspace and to increase the productivity of computers, peripherals, and communications equipment. Hergo is known for its highquality products and superior customer service.

# **Products Sold:**

- Racks
- Enclosures/cabinets
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- · Cable management
- Power management Flat-panel arms
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PHYSICAL INFRASTRUCTURE

# SENSATRONICS

Sensatronics was found in 2001 to do one thing really well - temperature monitoring. Our solutions notify our customers of potentially catastrophic environmental events and allow them to address alerts proactively. Our open architecture allows us to run on any operating system through a variety of vendor software programs making us adaptable to new or current customer environments. Due to the simplicity of our design, users can install and configure the units themselves within minutes.

# **Products Sold:**

- Wallmount temperature and environmental monitors
- Senturion rackmount environmental intrustion detection system and probe

(800) 633-1033 I www.sensatronics.com

### PHYSICAL INFRASTRUCTURE





Crenlo offers a broad range of standard enclosure and console product lines under their Emcor brand, each of which can be configured or modified by Crenlo to meet the specific requirements of most customers. Crenlo also offers completely custom enclosure solutions to meet the specific requirements of any application. Crenlo has more than 60 years of experience providing enclosure solutions to meet the needs of their diverse customer base.

### **Products Sold:**

- · Rackmount and wallmount enclosures
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(507) 287-3535 I www.crenlo.com/enclosures

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Rackmount Solutions' mission is to listen to the IT engineer's specific needs and deliver superb-quality, highperformance products through continuous product innovation and operational excellence. We pride ourselves in providing quality customer service, products that fit your IT requirements, and solid value for your money.

# **Products Sold:**

- · Wallmount and server racks and cabinets, including sound proof, air conditioned, and large cable bundle
- · Desktop/tabletop portable racks
- Shockmount shipping cases
- Bulk cable

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BayTech was founded in 1976 and, since the 1990s, has developed unique products for remote power management. The company uses printed circuit board instead of wires for a better, more resilient connection between the data center equipment and the receptacle. BayTech provides an extensive Web site with brochure downloads, warranty information, and reseller support and also offers evaluation units for data centers.

### **Products Sold:**

- Power control, distribution, management, and metering
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- · Console management and remote site management

(800) 523-2702 | www.baytech.net

PHYSICAL INFRASTRUCTURE



Since 1979, Simplex Isolation Systems has been setting new design standards in modular expandable cleanroom components, isolation curtains, hardware, and new product development. Fontana, Calif.,-based Simplex's unique strip doors and mounting systems are designed for quick installation. Simplex parts and materials perform with optimum efficiency, last longer, and save you money. And with Simplex, you are always backed by industry expertise, product knowledge, and the best warranties in the market.

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- Strip doors
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# **NETWORKING & VPN**



CTI was founded by Methode Electronics in 1997 and during the past 13 years has provided data centers with innovative solutions. CTI has recently become the cornerstone of Methode's Data Solutions Group, joining forces with the Methode dataMate and OPTOKON divisions in supporting the data center and communication industries. In addition, our highly qualified professional services team can engineer and install the best solution to fit your needs.

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(888) 446-9175 | www.methode.com/data

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WeBuyUsedTape has been in the business of purchasing new, used, excess, and surplus magnetic media for more than 35 years. Our regulation-approved, secure data eradication processes and environmentally friendly disposal programs give organizations a safe and economic incentive for recycling used media. Customer service is one of our top priorities, backed by helpful, knowledgeable, and efficient team members. Obtain a no-obligation, confidential quote on your tape media today. Onsite data destruction available.

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PHYSICAL INFRASTRUCTURE



Server Technology is committed to the PDU market with the largest group of engineers dedicated to power distribution and other solutions within the equipment cabinet. Advancements in device power monitoring help data centers monitor and improve their efficiency, and continuous research and development is fueled by companies that look to Server Technology for their custom cabinet power solutions.

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PHYSICAL INFRASTRUCTURE



Critical Power Exchange buys and sells mission-critical backup power and cooling system equipment typically used in computer rooms, datacenters and other industrial applications. Founded in 1993, CPE is your single point of contact for disposal or acquisition of reliable datacenter, environmental and mission-critical power equipment.

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PHYSICAL INFRASTRUCTURE

SENSAPHONE

Sensaphone has been designing and manufacturing remote monitoring systems for more than 25 years and has more than 300,000 of its products in use. Sensaphone's product lineup offers a full range of devices with a broad number of features and applications designed to monitor your entire infrastructure and alert you to changes. All product engineering functions, including hardware and software design and circuit board layout and assembly, are performed at the Sensaphone facility in Aston, Penn.

# **Products Sold:**

Remote monitoring solutions that provide email and voice alarm notification for problems related to temperature, humidity, water detection, power failure, and more.

(877) 373-2700 | www.sensaphone.com



The OCZ Technology Group has been offering enterprise class solutions for many years and OCZe (OCZ enterprise) represents the company's offerings that cater specifically to the unique needs of both Enterprise and OEM clients. These innovative products are designed and manufactured to solve problems and deliver improved total cost of ownership (TCO) to clients requiring enterprise class solutions.

# **Products Sold:**

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- · Power Management

PHYSICAL INFRASTRUCTURE

May 4, 2012



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(888) 220-6700 I www.AVTECH.com

PHYSICAL INFRASTRUCTURE



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### **CLIENTS**



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- · Network With Spider · Publish For CD/DVDs
- . Engine For Win & .NET · Engine For Linux

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